All the latest on the ACU ultimate games creation competition PLUS five fantastic Hero Quest board games must be won inside this issue

AMSTRAD COMPUTER USER

ACU

SEPTEMBER 1991

ONLY £1.65 THE BEST VALUE



THE FRENCH REVOLUTION

Vic Barnes gives you the lowdown on prolific games producers Infogrames

CALLINGALL HEROES

The classic board game comes to the computer in Gremlin's fabulous Hero Quest!

SPREADING THE WORD

Has the CPC found religion? Read on as ACU reveals the good works of Evangeltrust

A LITTLE LEARNING

Read on as the latest product from the Fun School stable gets the ACU treatment

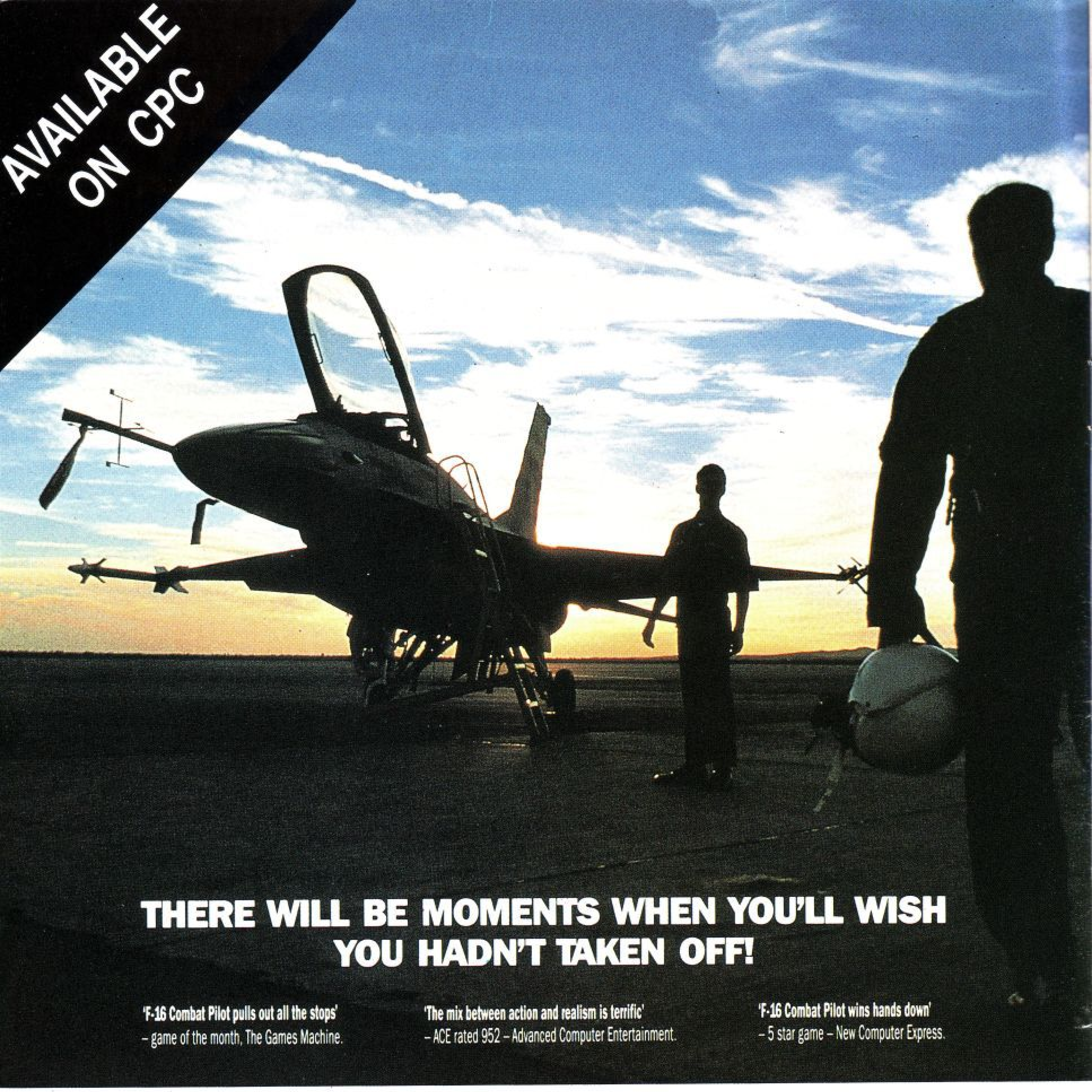
OFFICIAL

A-MAZE-ING GAMES

Adventure takes pole position with Shadow Dancer, North and South, Barbarian II, Pang, five mammoth budget blasts and a whole lot more in your favourite CPC games guide

09

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THERE WILL BE MOMENTS WHEN YOU'LL WISH YOU HADN'T TAKEN OFF!

'F-16 Combat Pilot pulls out all the stops'
– game of the month, The Games Machine.

'The mix between action and realism is terrific'
– ACE rated 952 – Advanced Computer Entertainment.

'F-16 Combat Pilot wins hands down'
– 5 star game – New Computer Express.

I'm primed for action as my F-16 leaves the runway. This time my mission is to destroy a battalion of tanks. Suddenly, threat warning – interceptors closing fast! I quickly select dogfight mode and arm a Sidewinder. We both fire at the same time – chaff and a high-g turn out manoeuvres his missile. A loud explosion tells me he's not so lucky.

F-16 COMBAT PILOT

Flying fast and low, I turn my F-16 towards my target. Time to switch on the ground radar and arm the laser-guided Mavericks. I fire six missiles in quick succession, Lantirn automatically locking on to each tank. With flak bursting around me I dive for cover and head for home. Approaching base, I contact the tower and request a talkdown for my night landing.

***SPECTRUM:** cassette £14.95, disc £19.95*

Order your F-16 Combat Pilot now, simply telephone (0276) 684959 quoting VISA or ACCESS credit card number, name and address.



ATARI SCREENS

BLACK BOX SIMULATION

Digital Integration
The Real World of Simulation

Digital Integration Limited,
Watchmoor Trade Centre,
Watchmoor Road, Camberley,
Surrey GU15 3AJ.

AMSTRAD CPC cassette £14.95, disc £19.95
'F-16 Combat Pilot is a milestone in C64 programming - a true achievement'

BrunWord

BrunWord ROM

Great news!! The price of large capacity ROMs has fallen dramatically and BrunWord Elite is about to be released as a ***ROM Module*** using one enormous ROM that is equivalent to 16 normal CPC ROMs.

The BrunWord ROM Module is a compact unit which plugs directly onto the expansion socket of the CPC6128 or the 6128 Plus. It measure 3 inches wide, half an inch thick and extends just 2 inches behind the computer.

On the ROM we have BrunWord Elite, Headline, 10 fonts for Headline (including 'Chelmer' and 'Clacton'), 8 fonts for 24 pin downloading, BrunSpell, 30,000 word dictionary, Info-Script and, for second disc drives owners, we can add ROMDOS by KDS.

The New Power

Imagine plugging a 256K memory pack onto your computer that's already loaded with programmes, dictionary and fonts. That's the BrunWord ROM module. Switch ON type |BRUNWORD and you can immediately start typing into the word processor, check the spelling and print it out, all without a single disc operation. You can move freely between the database, word processor and spelling checker, print using headline fonts and 24 pin fonts, examine pictures prior to printing and even format a disc, without disturbing the text in BrunWord or the data in Info-Script.

Printing Pictures

The BrunWord ROM module has a host of new features including five high quality, high speed screen dump routines for 9 pin or 24 pin printers. These are our own special routines using the BrunWord Elite 8 bit printer status port and compared to desk top publishers, the BrunWord ROM Module prints at orbit exit velocity!

While we may exaggerate ***slightly*** on the printing speed, we really do mean ***high*** 'high quality'. Judge for yourself. This entire advertisement ***including*** the drawing, the large 'BrunWord', the address layout, credit card symbols and the Teddy, was printed using the BrunWord ROM module and a wide carriage 24 pin printer ***in one printing operation.***

The Cost

The price is likely to be £125.00 inclusive... please telephone to check the final specification and price before placing an order. (We will need to know your computer type and attachments).

Buy or Wait

Words that are saved during a spelling check are saved to normal memory not to ROM. This is no problem as each of your discs will have a small file that contains all the 'unknown' words for that disc. However, if you own BrunWord (late Oct 88 onwards) then the price to upgrade to BrunWord ROM will include programming your personalised dictionary into the ROM. The price to buy BrunWord now and upgrade to ROM, will be less than the price to buy the ROM and update the dictionary later.

Very Serious

BrunWord ROM is perfect for the basic machine. You need no other add ons. Most of the time the disc drive will be silent, so a second drive or extra memory are pointless unless you have a particular requirement.

Having said that, very heavy business use such as we give the programme at Brunning Software, could well need various attachments. A 256K Dk'Tronics memory can be added to expand the available memory for Info-Script and a second 3 inch or 3.5 inch drive can be added. BrunWord ROM has some very special features for these add ons. For a flavour, lets just say that a 256K file can be loaded into Info-Script in 16 seconds from a 3.5 inch drive. To do this you need no extra software, just the BrunWord ROM module and a 3.5 inch drive (and extra memory for Info-Script). Another brilliant feature for second drive users must, for the moment, remain for us to use and you to wonder, but a better arrangement for a second drive will not be found on any computer.

Finally, ROM slots 4 to 7 are available for any other expansion ROMs and BrunWord ROM has warm start procedures so that a complementary background ROM can be visited, without loss of data in BrunWord or Info-Script. Evaluation models are out, so watch for the review in ACU (Amstrad Computer User).

References

ACU	SEP 1990	Page 58/59	- Encryption.
ACU	OCT 1990	Page 56/57	- Headline.
ACU	DEC 1990	Page 24/25	- Info-Script.
AA	FEB 1991	Page 18	- BrunWord 6128
ACU	MAY 1991	Page 42/43	- BrunWord Elite.
ACU	JUN 1991	Page 60/61	- Elite Font Editor.

BrunWord 6128 £30

Complete word processing package with word processor, spelling checker and card filing programme. BrunWord 6128 out performs all other word processors for the CPC6128. It's high speed screen routine, gives it a very fast response and the editor features are logically arranged to be easy to learn. The spelling checker, with its dictionary, load into memory at the same time as the word processor, making access very convenient and exceptionally fast. It is supplied with a 40 page manual and an introductory tutor file.

Info-Script £50

Complete data processing package, including all the features of BrunWord 6128 and BrunSpell. The word processor and database can be resident together giving the speed and convenience of common access with no disc delays.

9 Pin Elite £55

The Elite system for 9 pin printers consists of BrunWord Elite, BrunSpell, Headline, 8 bit printer status port and 7 'type setting' fonts (fonts are 24 pin in size but for 9 pin printers). Total £55 inc.

9 Pin Elite+Info £92

The Elite system as above but including Info-Script and a backup disc. Total price £92 inclusive.

24 Pin Elite+Info £90

BrunWord Elite, BrunSpell, Info-Script, back up disc, 8 bit status port and 7 'type setting' fonts for downloading to a 24 pin printer. Total £90 inc.



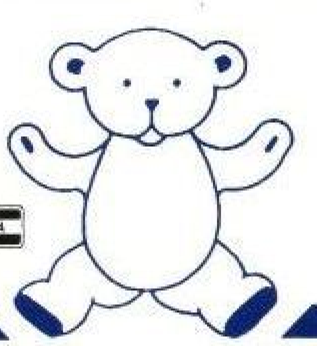
'William Taylor'

This delightful line drawing by Chris Rothero is one of the illustrations in 'Strawberry Fair', a book of traditional songs and easy piano music, published by A & C Black Ltd. It was Dart Scanned into four 'screens' by agreement.

Send cheque/PO/Access number/Visa number to:-

Brunning Software

138 The Street,
Little Clacton, Essex, CO16 9LS.
Telephone (0255) 862308



BrunWord 6128 with BrunSpell & DataFile. . . £30.00
Info-Script with BrunWord 6128 & BrunSpell. . £50.00
9 Pin BrunWord Elite £55.00
9 Pin BrunWord Elite with Info-Script. £92.00
24 Pin BrunWord Elite with Info-Script. £90.00
Elite Font Editor with 'Chelmer' & 'Clacton'. . £25.00

Supplied on 3in Disc for CPC6128 or CPC6128 Plus.
** You must state which computer. **

All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50

BrunWord

Complete Word Processing Package £30

BrunWord 6128 is a complete word processing Package consisting of a word processor, spelling checker and card filing programme. It out performs all other word processors for the CPC6128.

BrunWord uses its own high speed screen routine, giving it a very fast response. The editor features are logically arranged, to be easy to learn and the spelling checker with its dictionary load into memory at the same time as the word processor. The whole system is very convenient and exceptionally fast. It is supplied with an introductory tutor file.

BrunWord Features

*40, 80 or 128 columns. *Typing speed 200 words/min. *True insert or overwrite. *Justify or unjustify paragraph or whole text. *Balanced justification. *Instant word wrap. *Block save, move, copy, insert and delete. *Local editing with word delete/undelete. *Adjustable margins and TABs. *Word count. *Column/Line/Page display with file name. *Find and replace. *Help menus. *Memory files. *Single character embedded printer commands (18 with 3 codes and 21 with 10 codes). *Page throw markers. *Multiple copies. *Odd/even page headers/footers with page numbers. *Multi file printing. *Print specified pages. *Use any printer. *True display super/subscript numbers. *User defined characters. *Load/Save ASCII files from/to other word processors. *Files can be encrypted. *Maximum file size about 9 pages.

BrunSpell Features

*Memory resident programme and dictionary. *Checks 4,000 words/min. *30,000 word dictionary. *No American spellings. *Add up to 5,000 of your own words. *Instant lookup. *Helps to find correct spelling. *Automatic correction.

DataFile Features

*Alphabetical, numerical, date sorting. *User defined headings. *Search routine. *Data merging. *Label printing.

Quotes

"It may seem that I have just written a very long advert for BrunWord 6128 but I haven't, I'm just so impressed."
(Phil Craven, ACU Feb 90, page 25).

"One such is Peter Brunning's BrunWord 6128 which is without doubt in my mind, the most powerful and friendly word processor available for the 6128 today, with the possible exception of.... BrunWord Elite!"
(David Dorn, ACU July 90, page 43).

How They Compare

	BrunWord 6128 & BrunSpell	Protext Disc & Prospell	Tasword 6128 & Taspell
Typing into 241 word paragraph Typing into start of text	218 w/m 218 w/m	218 w/m 218 w/m	16 w/m 150 w/m
Scroll to end, line by line	1 min 27 sec	2 min 2 sec	2 min 25 sec
Justify paragraph of 241 words	1 sec	0·2 sec	34 sec
Change appearance to format and Appearance to Format	17 sec	17 sec	53 sec
Spelling check 3366 words Average speed Disc changes	52 sec 3883 w/m None	6 min 24 sec 526 w/m 8	18 min 46 sec 179 w/m 3
Spelling help 'NECESERY' Spelling check word at cursor	1 sec 0·5 sec	12 sec Not possible	Not possible Not possible
Screen format - columns Page boundaries	40, 80, 128 Shown	40 or 80 Not shown	80 only Shown

BrunWord Elite

Elite Word Processor For CPC6128 £55

BrunWord Elite has a unique advantage over its rivals, it can only be used with dot matrix printers. All other word processors are compromised to drive daisy wheel and dot matrix printers.

In the early days of computing a printer was simply a form of electric typewriter. (High quality printing, noisy and very slow). Then came the dot matrix printers, specially designed for computers. (Medium quality printing, not so noisy and much faster). Over the years, the typewriter style has become the daisy wheel printer and although greatly improved, it has been left far behind with the quality, speed and versatility of modern dot matrix printers.

Most word processors, including BrunWord 6128, can use dot matrix and daisy wheel printers. This creates the need for a style of printer control that is acceptable to two very different types of printers.

BrunWord Elite does not have this restriction as it is specifically written to be used only with dot matrix printers. This gives it a unique advantage over other word processors and as a result it is able to provide much more advanced printer control.

This is taken even further, as BrunWord Elite is supplied with an 8 Bit Printer Status Port which allows the programme to continuously monitor the status of the printer, (as well as providing the missing 8th bit for the original CPC6128). This means that BrunWord Elite is able to respond in a more sophisticated way than normally possible. It will wait for ON LINE or <ESC> if the printer is initially OFF or OUT OF PAPER but automatically returns to the editor if the printer is turned OFF.

24 Pin Fonts

Before we designed the fonts for BrunWord Elite, we studied several good magazines and concluded that the bulk of the text was printed in fonts that derive from two basic themes. Our fonts Fineline and Finetype are variations of these two styles, optimised for dot matrix printers. Fineline is supplied in three sizes and Finetype in two sizes. To these we added a display font in computer style type and a straightforward 'Heavy' font. Altogether there are 7 fonts supplied, four are full 24 pin fonts, two are middle size 21 pin fonts and one is a small size 16 pin font.

BrunWord Elite Features

All the features and speed of BrunWord 6128 and BrunSpell, plus:-

*Print in columns *Specify page layout *Use special high quality proportional fonts *Use advanced micro justification with proportional text *Set printer margins independently *Move print head up or down paper, specified in inches from top *Set micro line spacing within text *Print line or box by specifying size and line thickness *Use absolute TABs with proportional text *Download a file directly from disc during printing. *Can be supplied with Info-Script for data merging.

Headline

Headline is a print enhancement utility specially designed for use with low cost 9 pin printers. It enables virtually all the features of BrunWord Elite, including the 24 pin fonts, to be used with any 9 pin Epson compatible printer. The only requirement is that the printer must have quadruple graphics (all well known modern 9 pin printers). Even printers which do not have double height printing will be able to use all the features of Headline, including micro justification, normal, double and eight times height, and 1 to 9 times width

9 Pin Elite £55

BrunWord Elite, BrunSpell, Headline, an 8 bit printer status port and 7 'type setting' fonts (fonts are 24 pin in size but only for 9 pin printers). Total price £55.00 inclusive.

9 Pin Elite+Info £92

As above but including Info-Script and a backup disc. Total Price £92.00 inclusive.

24 Pin Elite £90

BrunWord Elite, BrunSpell, Info-Script, back up disc, an 8 bit printer status port and 7 'type setting' fonts for downloading to a 24 pin printer. Total price £90.00 inclusive.

Info-Script

Complete Data Processing Package £50

Info-Script includes BrunWord 6128 and BrunSpell. The word processor and database can be resident together, giving the convenience of access to both programmes with no disc delays.

Info-Script is written around the full BrunWord 6128 word processor, enabling many routines to be common. This makes a very compact combination and allows both programmes, 6 pages of text and 1000 addresses to be in the memory at the same time using a standard CPC6128 (or 6128 plus). The great advantage of this is the speed and convenience of no disc delays.

Database Features

*Very fast (e.g. takes 1 second to search 2000 addresses for surname 'Smith', initial 'B'). *Specific field search and/or progressive general search. *Instant sort on any field, alphabetical, numerical, date or reverse order (zero time as the data does not move). *3 sets of user defined headings for each file. *4 markers for instant selection, plus one temporary marker. *Markers can be cleared or inverted and any pair can be added (allows complex searches to be quickly and easily performed). *No setting up of field type or length. *Efficient storage. *Relational records, Parents, Sons and Daughters. *Field to field arithmetic. *Direct data merging into BrunWord. *Easy direct label printing, 1 or 2 across, left of 2 or right of 2. *Single or multi-step.

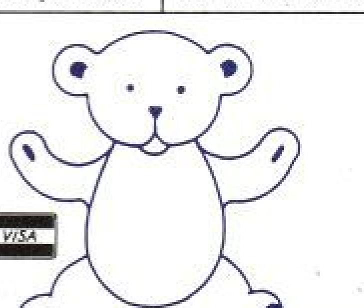
Data Merging Features

*Simple intelligent system, &N &A &D construct full name, full address and date. *&1 &2 etc specify individual fields. *Insert or fixed format merging. *Automatic justify after merging. *Single step (see before printing) or multi-step. *Stop any time, go to word processor, restart same place. *Merge data from several records for summary, invoice, purchase order etc. *Arithmetic. *Running total. *VAT total. *Conditional loading. *Conditional printing. *Repeat patterns.

100 Letters £15

100 Letters is a utility for use with Info-Script, enabling pre-written letters to be easily selected and personalised. It is supplied with a library of 50 letters but even the most cautious users will be able to write simple letter patterns to expand the library to '100 Letters'. If multi-purpose patterns are used then the upper limit depends only on the skill of the writer. A third type of letter pattern, aimed at solicitors, doctors, school teachers, estate agents etc, consists of up to ten pre-written paragraphs. The user indicates which of the paragraphs are to be used. 40 separate letters can be added using this style.

Send cheque/PO/Access number/Visa number to:



Brunning Software

138 The Street,
Little Clacton, Essex, CO16 9LS
Telephone (0255) 862308

BrunWord 6128 with BrunSpell & DataFile. . . £30.00
Info-Script with BrunWord 6128 & BrunSpell. . £50.00
9 Pin BrunWord Elite £55.00
9 Pin BrunWord Elite with Info-Script. £92.00
24 Pin BrunWord Elite with Info-Script. £90.00
100 Letters (needs Info-Script). £15.00

Supplied on 3in Disc for CPC6128 or CPC6128 Plus.
You must state which computer.

All prices are inclusive for UK. Overseas orders sent insured air mail - Europe add £2.50 : Rest add £7.50

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REGULARS

FEATURES

POCKET POWER



Isn't it peculiar how everything seems to be getting smaller nowadays, apart from the old bills of course.

The latest in this long line of miniaturisation is the new portable printer from Citizen. Weighing in at a mere 1.17kg with the battery and measuring a very compact 29.7cm x 9cm x 5cm in dimensions, the new PN48 Notebook Printer is very definitely the world's smallest A4 portable printer.

In a dramatic move to snatch a large slice of the fast expanding portable market, the PN 48 still retains many of the features and print quality found in desktops and retails at an incredible £325, including the battery.

As a non impact device, the high resolution printhead allows for true letter quality print, with speeds of 53 cps in LQ for text/graphics combinations.

Working at a very quiet 49 dBs, the PN48 offers a choice of two resident fonts, CTZ Times Roman and Courier, with a variety of different print sizes and styles.

With an independent battery life of between 25-30 A4 pages, you really can take this excellent gadget wherever you like.

So, if you have very limited deskspace and a few quid to spare, why not pop down to your nearest Citizen dealer and find out what the PN48 has got to offer? It certainly looks neat enough and may be just what you're after.

RATTY BUSINESS

The sweating is over! Here, at long last, are the results of our fabulous Ratcatcher Quiz, set up in conjunction with Audiogenic's superb Exterminator blast in the May issue.

The questions weren't all that difficult, although the last one about Liverpool's last FA Cup success did catch a number of you.

We at ACU feel that Caroline Scott of Gourock, Scotland deserves a mention for her answer of: "Did they ever~?", even though we are afraid we can't include her in the list of winners. Never mind Caroline, we'll see if we can't sort out a little something for that very cutting remark, which should make Liverpool fans see red, if you'll pardon the expression.



Ok, now on to the real winners. Without further ado, the exceptionally lucky winner of the slippery-slidey Exterminator hands is David Burywood of Crossacres, Manchester.

What next? Take a look through the following list and see if you are one of the lucky runners-up, who remembered to state their computer format on their entries, and who will be receiving an excellent copy of the Emlyn Hughes' Arcade Quiz for their troubles very shortly.

Gareth Law of Carmarthen, Dyfed; Chris Williams of Swansea, West Glamorgan; Oliver Reynolds of Felixstowe, Suffolk; Joseph Rooney of Keresley, Coventry; Robert Waller of Romsey, Hants; Ian Pope of South Woodford, London; Matthew Dormer of Cannock, Staffs; David Parker of Accrington, Lanchashire; Richard Lunt of Bagillt, Clwyd and Mrs BS Speechley of Amcotts, Scunthorpe.

Thanks to everyone who took part in the quiz and we're sorry you couldn't all be winners. Never mind, why not turn to page 13 and see how you fare in this month's epic ACU compo. Good luck.

A DROP IN THE OCEAN

If you are one of those people who just can't wait for Autumn time to come around again, with the long anticipated line-up of new releases for the Christmas season from the software houses to be announced, save yourself the trouble of waiting and take a good look at some of the excellent goodies on their way from Ocean this year.

In a truly star-studded line-up, those canny Mancunians have taken the Simpsons on board in what looks to be a truly epic alien blast.

In Bart Versus the Space Mutants, Springfield has been invaded by a "buncha slimy, horrible, totally gross an' putrid monsters."

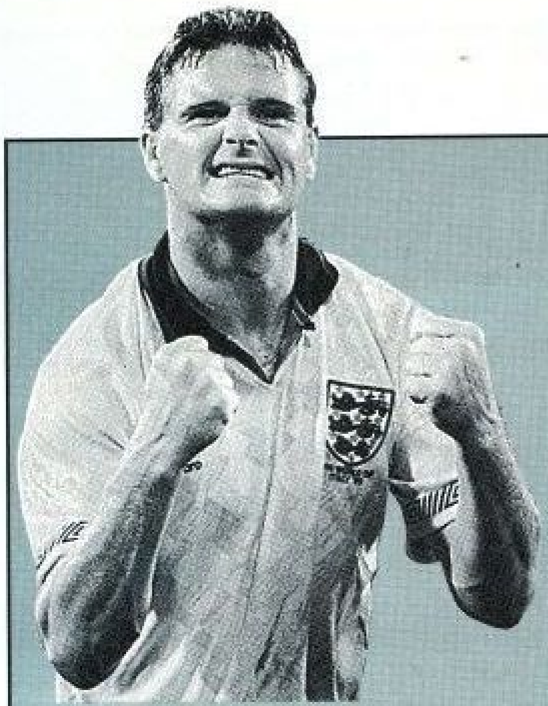
Wearing your X-Ray specs you, as Bart, must use your spraypaint, slingshot and anything you can lay your hands on to stop the alien menace in what looks set to be a guaranteed, blistering success later on in the year. Look out for it.

Further down the list is something for wrestling freaks, following on from the huge success of this televised cult sport. Starting off as either the Ultimate Warrior, Hulk Hogan, or British Bulldog, it's your task to snarl and battle your way through the ranks to become undisputed World Wrestling Federation Champion of the World.

THE SIMPSONS™ BART VS. THE SPACE MUTANTS

If you like your action rough and ready, this should be right up your street.

Keep you eyes glued to these pages for more new games releases over the next few months as the big name software house battle hots up again in the race for the Christmas number one.



BIG DEAL

Gazza may be leaving the hallowed turf of White Hart Lane, but the good news is that the Super Spurs have got a brand new First Division signing in the form of Amstrad supremo Alan Sugar.

Following extensive negotiations at the club's North London headquarters, the buy-out bid staged between Spurs manager Terry Venables and Alan Sugar has been finally accepted, at a cost of around £7.5 million to the purchasers.

Delighted at being able to play a part in saving his favourite team, Mr Sugar, who is reported to have an excellent working relationship with Spurs hero venables, will become a non-executive chairman of the club.

The purely private investment should surely secure Mr Sugar's season ticket at the club, even if it doesn't mean Arnold getting its name splashed across the Tottenham Hotspur strip.

Nevertheless, if the success of the CPC is anything to go by, Alan Sugar's golden touch may well herald even greater excitement at White Hart Lane next season, which is definitely good news for Spurs fans who have been biting their nails over the past few months while the future of their team was at stake.

HOLY COMPILATIONS!

If you thought things were already hotting up for summer, you'd better get ready for some blistering action, following plans from French based Ubisoft to release five fabulous compilations over the coming months.

We at ACU have got news on two of the epics to date, the first being the aptly titled Ultimate Collection. Including Skate Wars, Stunt Car Racer and Zombi, amongst other classics, be sure not to miss out on this one.

The second in the line, Six Appeal, has Rick Dangerous, Twin World, Pick'n'Pile and P47 for your delectation and more besides. At just £19.99 for the disc and £14.99 for the cassette collections, waste no time at all in getting hold of your copy as soon as it hits the shelves.

NEVER FAIRER

If you have never had the pleasure of a visit to one of the All Formats Computer Fairs, then rectify that situation straight away with a phone call to John Riding on 0225 868100.

With all of the latest information on venues and dates, as well as advance tickets services, this number should be very high on your top ten important numbers list, especially as the Fair is going national this Autumn, with events all over Britain.



Stocking every type of computer game conceivable, new and old, disk, cassette and cartridge alike, the prices will astound you.

On top of that, if you're looking for that vital component for your latest project, the odds are that the very piece you need can be found on one of the extremely diverse stalls at the fair, probably cheaper than anywhere else as well.

Get on the phone now and find out how close the Fair is coming to your home.



DISCOUNT SOFTWARE

from M.J.C. SUPPLIES

STOP PRESS SOFTWARE

A superb page layout program allowing text and graphics to be printed on the same page. Contains a number of text fonts & clip art. Create leaflets, posters etc.

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STOP PRESS & AMX MOUSE

As above but is supplied complete with the AMX mouse making the program a lot quicker and easier to use.

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EXTRA! EXTRA!

Two discs of extra fonts and clip art for use with Stop Press.

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EXTRA! EXTRA!
ONLY 74.95

AMSTRAD 6128 PLUS COMPUTERS

Amstrads replacement for the CPC 6128 is now available.

with Colour Monitor £369.95
with Mono Monitor £309.95

RIBBONS

Printer	Quantity 1	2	5
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Panasonic KXP1081	3.95	7.00	15.00
Citizen 120D	3.95	7.00	15.00
Star LC-10 Black	3.95	7.00	15.00
Star LC24-10	4.95	9.00	18.00
Panasonic KXP 1124	5.95	11.00	
Star LC-10 Colour	5.95	11.00	
Star LC200 Mono	5.50	10.00	
Star LC200 Colour	10.95	19.95	
Star LC24-200 Mono	4.95	9.00	
HEAT TRANSFER RIBBONS			
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Mini Office 2 .... 13.95
Advanced Art Studio 19.95
ColourDump 2 .... **12.95**

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CHECKSUM BLUES

Could you or any other ACU reader help? My wife and I type in most of the listings and 10-liners from each month's mags, but with mistakes. Some are good fun for the kids.

Is it possible to get a check program for the listings? Please help.

F. J. Childs, Gains Park, Shrewsbury.

Ziggy: I know it's been a long time since it was last published, but ACU does have its very own proof-reader program which, due to enormous public demand, we shall publish in next month's issue to keep you all happy. It's a very simple routine and should enable you to pick out most basic errors at a glance. So, hang in there until next month. Help is on its way.

RAFFLES BAFFLES

I have a problem with my program in my Amstrad User Manual for the CPC 6128.

The program is called Raffles. Each time I run it there are no doors or windows to escape from the first room, and, when I've collected all the gems in the room I cannot get out because, as I've said, there is nothing to get out of the room with, if you see what I mean.

And yes, I have checked the program again and again!!! Is there an answer to my problem?

Alex Parker, 11 Leslie Street, Albany, Western Australia, 6330.

Ziggy: Well, it looks as if you may have a bit of a dodgy manual there, Alex. Has anybody else encountered problems with this proggie in the back of the manual? If so, let us know. In the meantime Alex, why not send in your dodgy copy and we'll compare it with ours and see where the problem lies. OK?

PRINT POSER

For reasons known only to Citizen, on their 120D, 27, 61 does not reset the 8th bit, although the manual says it should.

As a result, Mr Gibbs' program in the July issue, page 56, on the 7-bit port won't work with that printer.

Changing "loval" in line 20 from 61 to 35 will do the trick, however. This tells the printer to leave the 8th bit as sent, which for the CPC is a zero.

I see that he is using checksums in his listings. Why has ACU stopped doing so?

M. Catton, Gosport.

Ziggy: Thanks for the tip, sir. As for your second query, see the letter to the left of this one and look out for checksums very soon.

COVER CRY

Why can't we have a cover tape with two demos and two complete games in a boxed cassette every month and, if you do, make the price £2.20 and it will be much better.

Paul Mee, Bootle, Merseyside.

Ziggy: To be fair, Paul, the main reason for our recent Reader Survey was to ascertain just exactly what you, the readers want from ACU. Indeed, many readers may prefer serious utilities to games on a cover cassette. However, when we've sorted out all the replies, we'll be able to gauge what is wanted and how best we can fulfil those desires. Hold on a little longer and we should be able to come up with something with a nice balance to it, to keep everybody happy.

WORD POWER

I have owned an Amstrad CPC6128 for about 2 years now and, while my brother plays games, I like to investigate a little further.

I am about to start my GCSE course in September and I wondered how the computer could be used as a word processor for printing out documents. I do not own a printer, but am going to invest in one if it is possible to use the computer as above.

Please could you give me some information about the topics discussed, and also some prices of printers. Thank you.

Claire Wade, Darlington, Co. Durham.

Ziggy: Yes indeedy! The CPC makes an excellent word processor. I use it for just such purposes all the time. However, you do need to invest in a little software, as well as

ZIGG MAIL

a printer, to produce the desired effects. There are a number of word processing packages on the market for the 6128, the main ones being Brunning Software's Brunword, (you can get hold of Brunning on 0255 862308), Arnor's ProText, (try ringing 0733 68909 for details on that one), and Tasword, which you can pick up from the mail order companies at a reasonable price.

There are others, including Mini Office, but you really need to have a look at them all, to see which one best suits your needs.

After that, you can pick up a Star printer, or even a Citizen for well under £200 nowadays, or why not look through the Bits and Pieces section to see if you can pick up a good secondhand one.

Word processing is great fun and is easily achieved, but hunt around a bit first before you part with any hard cash. Good luck with the GCSEs!

WELCOME BACK?

March 1990; I went into the newsagents and bought my regular copy of ACU and also a copy of AA in which it was stated that the company in charge of ACU was having problems. April 1990; I went to the newsagents – NO ACU!

May 1990 – May 1991 – DITTO. In the meantime I had to read AA and I was sorely missing my ACU.

AND THEN! On May 28th 1991, I had to go into W. H. Smith to get a magazine for my daughter. Was it a mirage? Look again. Yes! There it was – ACU in all its glory, staring at me from the rack. Where have you been for the last year? Am I going to see you regularly from now on? As I cannot afford a regular subscription, I have placed an order with the store for a monthly copy.

Welcome back to my library. Now, as I was browsing through my ACU, I read that Ol' Hairy may be losing his column – Keep him on please! He has been an integral part of ACU for a long time and there is still a place for him in the magazine.

I notice, also, a few nice changes since you went away, mainly the adventures column, which was an area sadly lacking in ACU previously.

Sorry to rabbit on for so long but the withdrawal symptoms have now passed so, keep up the good work and once again – welcome back!

Terry Buckland, Cheltenham.

Ziggy: Hmmmmm! I think we've discovered a black hole in the fabric of the British countryside. What can I say, Terry? You really shouldn't belie e all of the nasty rumours you read in other publications. Despite experiencing some problems with our distribution, ACU never went away! Admittedly, ownership of the mag changed hands, but the crew are still all here, plugging away as usual and we didn't even miss a month during the changeover.

All I can really say is that, I'm glad you have found us again and sorry you missed out on the fun in between, Oh, by the way, the rest of the crew, including Hairy, send you their love as well. Welcome back yourself, Terry!

NORWAY CALLING

I am a reader in Norway with a 6128 and I've got some favours to ask of you. First, could you please print that I'd like to hear from anyone with a 6128. This is rather important to me, as the Amstrad community here in Haugesund is a little isolated.

Now the question: Is there a good dictionary on the market for the 6128? If there is, which is the best? If there is not, why not? The dictionary I am looking for should give an explanation to the words you look for. For example: you look up the word "hip". Explanation: "Part on either side where the bone of a person's leg is joined to the trunk; He stood there with his hands on his —s." If you don't know any dictionary this good, it would be nice if you could recommend one nearly as good. The point is that when I hear a word on either TV or radio, I could look the word up on my computer.

I hope you'll find space in your column for my letter.

Igjermund Viland, BOX 1448-Bleikemyr, 5501 Haugesund, Norway.

Ziggy: Not too sure if there's a dictionary that good around for the 6128. Why not try some of the mail order companies that advertise in the mag for starters, like O J Software, MJC Supplies or First Choice software. Are there any readers out there who fancy a penpal in Norway, or anyone who has some good news concerning dictionaries for our Scandinavian friend? Get in touch with him and make his day.

PRAISE AWAY

Quite frequently I read, in the letters columns of the computer press, about software houses that give bad service to their customers. I would just like to express my thanks to a company that goes out of its way to give quick and efficient service to its customers.

When I found out that I couldn't load numeric variables from disc back into a program written using Power Basic, I wrote to SPM Software and sent them a copy of my program. This was posted on a Thursday and, on the following Monday, I received my disc back with a compiled version of my program and the latest version of Power Basic also included.

I would like to use your column to thank them for their customer support.

Vernon Wilmore, Hillside, Brighton.

Ziggy: Feel free, Vernon. It's always nice to hear from a happy customer and I'm sure SPM will appreciate your kind words. In this day and age, with the recession boiling on around our ears, it is increasingly difficult for the smaller businesses to keep going, but their hearts are in the right place.

GY'S BOX

ZIGGY'S MAILBOX

BURNING DESIRE

Please could you tell me where I can go to buy Amstrad 6128+ cartridge games and joysticks and so on?

I really need to know because the only game I own is Burnin' Rubber!

I would also like to know if CPC disc games will work on my plus machine because I want to buy Mastermix and Turrican 2 and I think they are only available on disc.

Please print this because I need help!

Elaine Baptiste, Highgate, London.

Ziggy: Well, you should be able to pick up cartridge games etc. at most good computer shops. Try W.H.Smith or other stores where computer games are on sale. To date, there are probably between 10 and 15 cartridge games on the market, so you should have a fair selection to go through.

On to your second point, although some of the really early CPC disc games had trouble working on the Plus machines, all of the new ones will work fine and, I'm assured that both Mastermix and Turrican 2 will be just fine for your machine. OK? Happy blasting.

DIZZY BLUES

I am writing to ask for your help. My son Neil, aged 8, typed in your hack for the Dizzy Collection (ACU-July 1991). Unfortunately, there appears to be a set of variables missing-possibly in line 80 – as there are only 9 sets there as opposed to 10 in the other lines.

I would be most grateful if you could send us the missing details.

Anne Mackenzie, Peterhead, Aberdeen

Ziggy: Yes indeedie. There does appear to have been a bit of a printer lash up on the old Dizzy hack, so here goes with some hasty corrections:

In line 50, one of the 0s after the 11 should be omitted.

In line 80, insert 8b, between 0a and 7e.

In line 60, insert 32, between c9 and 18.

Run that little lot and the hack should work ok. Ok?

PERFECT PACKAGING

A few months ago, I purchased Stop Press with an AMX mouse. The package is superb, apart from the crude way in which the interface precariously hangs off the joystick port with the power connection tugging on the 6128's 5V supply.

Something had to be done. I tried various joystick extension leads, repositioning the interface behind my computer, but I still wasn't happy. So I decided to see if there was room inside the computer to hide the interface.

Unscrewing my 6128 casing, I found the perfect spot; between the disc drive and main PCB. This is roughly under the keypad and cursors. I then constructed a short extension lead for the joystick connection (one male 'D 9 pin connector' wired to one female 'D 9 pin connector', pin to pin) about 80cm long. The mouse and power cable both leave the main computer casing via the disc drive 2 port and the joystick cable can then be fed, carefully, round the main PCB and out through the far left of the printer port.

This works fine even if you have peripherals connected to the ports and I haven't had any trouble with it. I hope 6128 users with an AMX mouse will find this useful.

Johnathan Bowman, Huntingdon, Cambs.

Ziggy: I should think 6128 users will find this a positive boon. Thanks for your good advice Johnathan and keep up the good work.

MYSTERY GAME

Reading the letters in the July issue of ACU, I noticed how helpful you were in providing the address and telephone number of a software company to R. Sears, who couldn't obtain 'Helter Skelter'.

My predicament is that, about three years ago, I bought a game called 'Kirel'. Unfortuantely, I do not possess this anymore. I've tried telephoning discount software firms, the Amstrad User Club and even Amstrad themselves, all to no avail.

Could you please track down the elusive software company who produced this game so that I may purchase a copy?

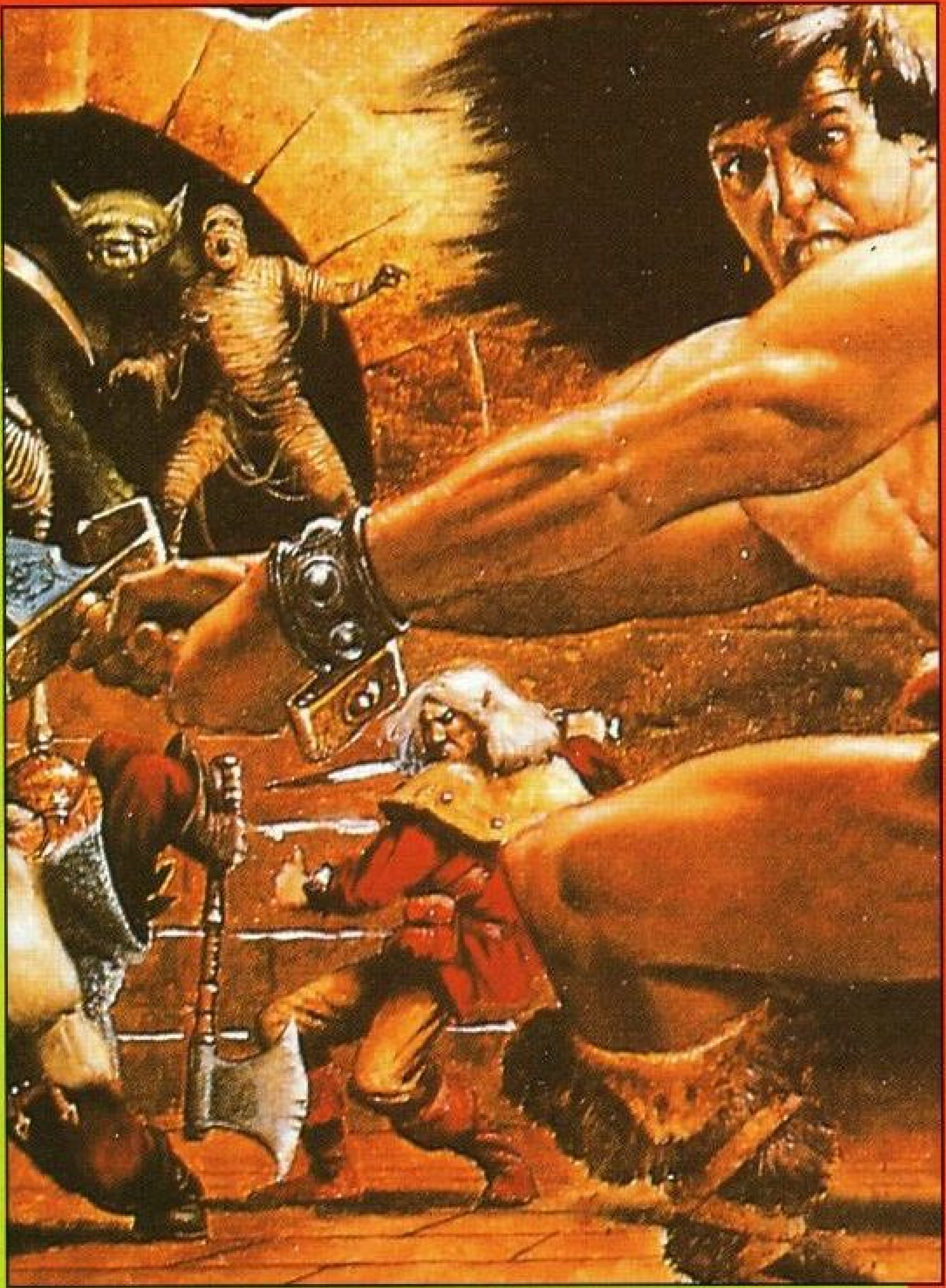
S. James, 27 Debdon Road, Ashington, Northumberland. NE63 9QX.

Ziggy: This is one of those games, isn't it? The name is terribly familiar and I know I've had a bash at it myself, though it was a long, long time ago.

However, try as I might, and I've even grilled the rest of the ACU crew about this one, I just can't place its humble beginnings. does anyone out there have any idea about the origins of the elusive Kirel? Better still, does anyone know where Mr James might be able to get hold of a copy?

If so, write to me or Mr James and let us know; we'd both be very pleased to be put out of our misery.

COMPETITION



They who would adventurers be, must answer me these questions three!

Yes indeedy. Thanks to those awfully nice people at Gremlin, we at ACU have got five fantastic Hero Quest board games and five brilliant Shadow of the Beast games to give away in this month's super Quest Quiz. Just answer the three simple questions below (looking for clues on the centre pages, if needed), and send in your entry, remembering to state which format you want the game on. The first five correct entries pulled out will get the goodies, so get going and good luck!

1. Which company creates the Hero Quest games?
2. What is the name of the Lord of Chaos in the adventures?
3. Which was the first Hero Quest adventure?

Send your entries to:

**ACU Quest Quiz,
Sunnyside Cottage,
Carluddon, St. Austell,
Cornwall. PL26 8TY.**

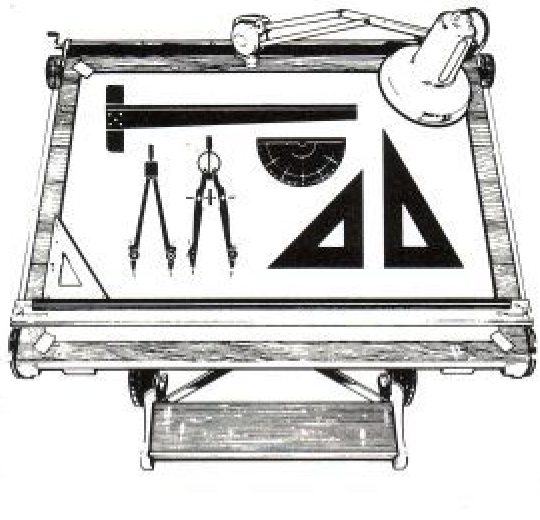
The editor's decision is final.

MATHS QUIZ

BY STEPHEN RAMSAY

Brush up on your calculating skills with this handy little proggy. All in all, you can keep a check on your adding, subtracting, multiplication and division, using the easy to follow menu. It's as easy as 1, 2, 3. Or is it?





```
10 MODE 1:PEN 3:LOCATE 15,4:PRINT"MATHS QUIZ":LOCA
TE 15,5:PRINT"**********":PEN 1:LOCATE 12,8:PRINT"
1=      ADDITION":LOCATE 12,9:PRINT"2=   SUBTRACTI
ON":LOCATE 12,10:PRINT"3= MUTIPLICATION"
20 LOCATE 12,11:PRINT"4=       DIVISION":PEN 2:LOCA
TE 13,13:INPUT "Your Choice";Q:ON Q GOTO 30,50,70,
90
30 CLS:PEN 1:A=INT(RND(1)*50)+1:B=INT(RND(1)*50)+1
:LOCATE 13,5:PRINT"WHAT IS";A;"+";B;"?":LOCATE 19,
8:INPUT C:PEN 3:LOCATE 17,11:IF C=A+B THEN PRINT"C
ORRECT" ELSE PRINT" WRONG"
40 PEN 2:LOCATE 13,25:PRINT"CONTROL TO EXIT":FOR D
=1 TO 500:IF INKEY(23)=128 THEN RUN ELSE NEXT:GOTO
 30
50 CLS:PEN 1:A=INT(RND(1)*100)+1:B=INT(RND(1)*50)+
1:LOCATE 13,5:PRINT"WHAT IS";A;"-";B;"?":LOCATE 19
,8:INPUT C:PEN 3:LOCATE 17,11:IF C=A-B THEN PRINT"
CORRECT" ELSE PRINT" WRONG"
60 PEN 2:LOCATE 13,25:PRINT"CONTROL TO EXIT":FOR D
=1 TO 500:IF INKEY(23)=128 THEN RUN ELSE NEXT:GOTO
 50
70 CLS:PEN 1:A=INT(RND(1)*20)+1:B=INT(RND(1)*20)+1
:LOCATE 13,5:PRINT"WHAT IS";A;"x";B;"?":LOCATE 19,
8:INPUT C:PEN 3:LOCATE 17,11:IF C=A*B THEN PRINT"C
ORRECT" ELSE PRINT" WRONG"
80 PEN 2:LOCATE 13,25:PRINT"CONTROL TO EXIT":FOR D
=1 TO 500:IF INKEY(23)=128 THEN RUN ELSE NEXT:GOTO
 70
90 CLS:PEN 1:A=INT(RND(1)*20)+1:B=INT(RND(1)*20)+1
:LOCATE 13,5:PRINT"WHAT IS";A*B;CHR$(172);B;"?":LO
CATE 19,8:INPUT C:PEN 3:LOCATE 17,11:IF C=A THEN P
RINT"CORRECT" ELSE PRINT" WRONG"
100 PEN 2:LOCATE 13,25:PRINT"CONTROL TO EXIT":FOR
D=1 TO 500:IF INKEY(23)=128 THEN RUN ELSE NEXT:GOT
O 90
```

DECIMAL

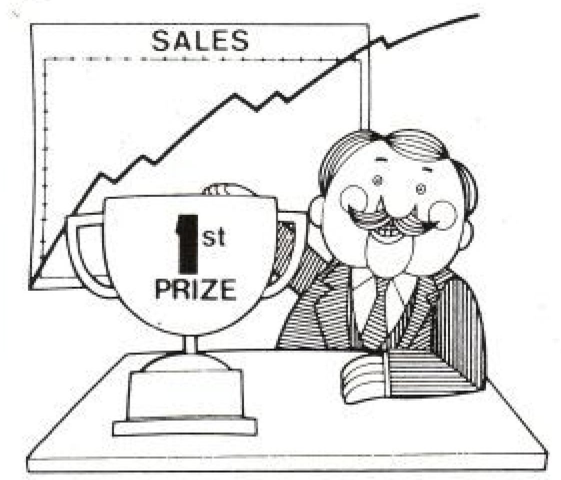
BY STEPHEN RAMSAY

Stephen's been busy this month and his next offering is a very nifty routine to test your decimal observation skills.

Using your own judgement, make a guess at which decimal is being indicated on the graph, and watch as your estimate arrow shoots across to tell you if you were right or wrong.

Very clever this one and quite educational to boot.

Well done, Stephen.

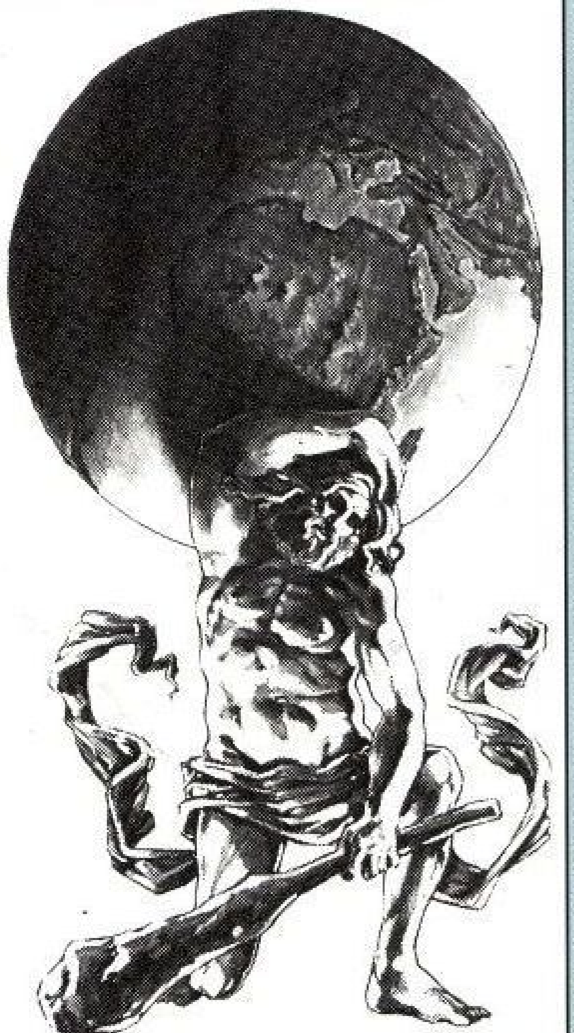



```
10 MODE 2:S=0
20 CLS:N=INT(RND(1)*8)+2:J=380/N:P=-(J-18):LOCATE
40,25:PRINT"SCORE ";S:TAG:FOR A=0 TO N:P=P+J:MOVE
0,P:PRINT A;:MOVE 16,P:DRAW 25,P:NEXT:MOVE 25,400:
DRAW 25,0:Y=INT(RND(1)*360)+30:MOVE 30,Y:PRINT CHR
$(231);:TAGOFF:LOCATE 6,25:INPUT "WHAT DECIMAL";D
30 :AY=(J*D)+24:TAG:FOR L=600 TO 30 STEP-4:MOVE L,
AY:PRINT CHR$(242);CHR$(154);CHR$(199);" ";:NEXT
40 IF AY>(Y-16) AND (AY-6)<Y THEN S=S+10:SOUND 1,3
00,10,12
50 TAGOFF:GOTO 20
```

BIG STUFF

BY ROBIN GILBERT

Roll up all you budding creators looking for a nice sequence to honour your entry in the ACU Mammoth Games Compo. Simply run this one, type in your message, and watch it get the big-screen treatment before your eyes. If it grabs you, Robin won't mind you using it for your own masterpiece.

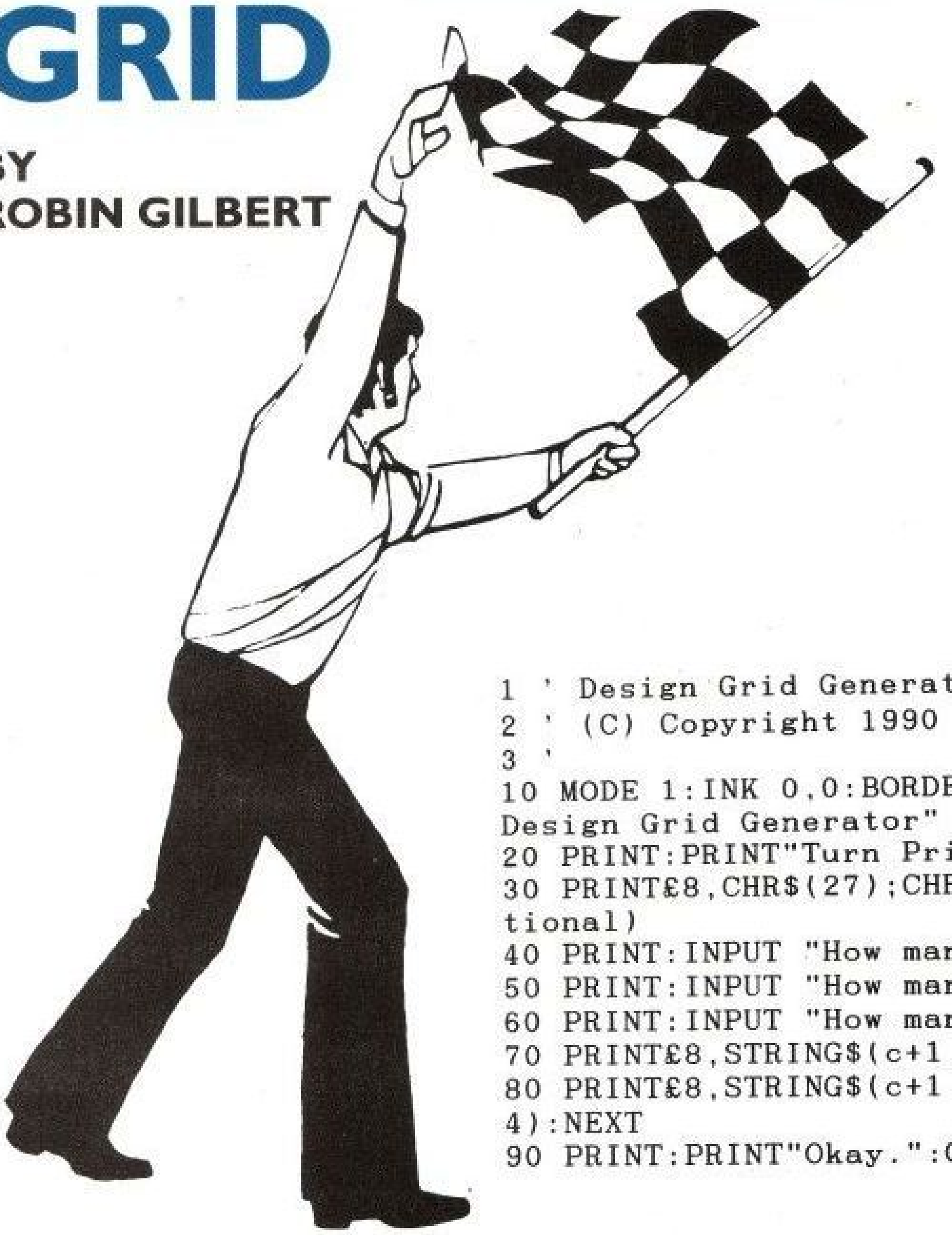


```
1 ' ** Big Stuff **  (C) Robin Gilbert 1991
2 '
10 CLEAR:SYMBOL AFTER 256:MEMORY 39999:SYMBOL AFTE
R 32:RESTORE:g=40000:READ a$:FOR that=1 TO LEN(a$)
 STEP 2:POKE g,VAL("&"+MID$(a$,that,2)):g=g+1:NEXT
20 INK 0,0:PAPER 0:BORDER 0:MODE 1:INK 1,20:INPUT"
Enter Name:",a$:IF LEN(a$)>30 THEN 20 ELSE MODE 1:
INK 1,1:INK 2,2:a=1
30 FOR f=1 TO 24 STEP 2
40 CALL 40000,f/2,f,@a$,1,2   ' CALL address,Xpos,Y
pos,String,TopCol,BottomCol
50 NEXT:WHILE 1:a=a+1:IF a=27 THEN a=1
60 FOR F=1 TO 100:NEXT
70 INK 1,a:INK 2,a+1:WEND
80 DATA DD5E04DD56051A47131A6F131A67C5E57ECDA5BB54
5D3EFECDA5BB06081A137723772310F8DD6608DD6E06CD75BB
DD7E083CDD7708DD7E02CD90BBCD939CFE0A08FFDD7E00CD90
BB3EFFCD5ABBE123C110BCC9E17E23FEFF2805CD5ABB18F5E9
```

GRID

BY ROBIN GILBERT

How many times have you had to turn to your pen and inks to redraw that game grid you just loused up? Well, not any more, thanks to this handy grid designer routine. Simply follow the on-screen instructions and watch as your very own playing base appears on your printer. Extremely useful.



```
1 ' Design Grid Generator by Robin Gilbert
2 ' (C) Copyright 1990
3 '
10 MODE 1:INK 0,0:BORDER 0:INK 1,17:PRINT TAB(10)"
Design Grid Generator"
20 PRINT:PRINT"Turn Printer On."
30 PRINT£8,CHR$(27);CHR$(71); ' Double Density (Op
tional)
40 PRINT:INPUT "How many columns (1-80) ? :",c
50 PRINT:INPUT "How many rows (1-64) ? :",r
60 PRINT:INPUT "How many Copies ? :",t
70 PRINT£8,STRING$(c+1,95):FOR f=1 TO r
80 PRINT£8,STRING$(c+1,95);CHR$(13);STRING$(c+1,12
4):NEXT
90 PRINT:PRINT"Okay.":GOTO 40
```

SHOOT 'EM

BY STEPHEN RAMSAY

Here's an excellent little blast up that'll have you battling against a mutant alien invasion.

Watch the baddies fall from the skies and try to zap them, using the TAB key and SPACE bar to control your two bases, before they eat away at your defences and spell your doom. Good stuff.



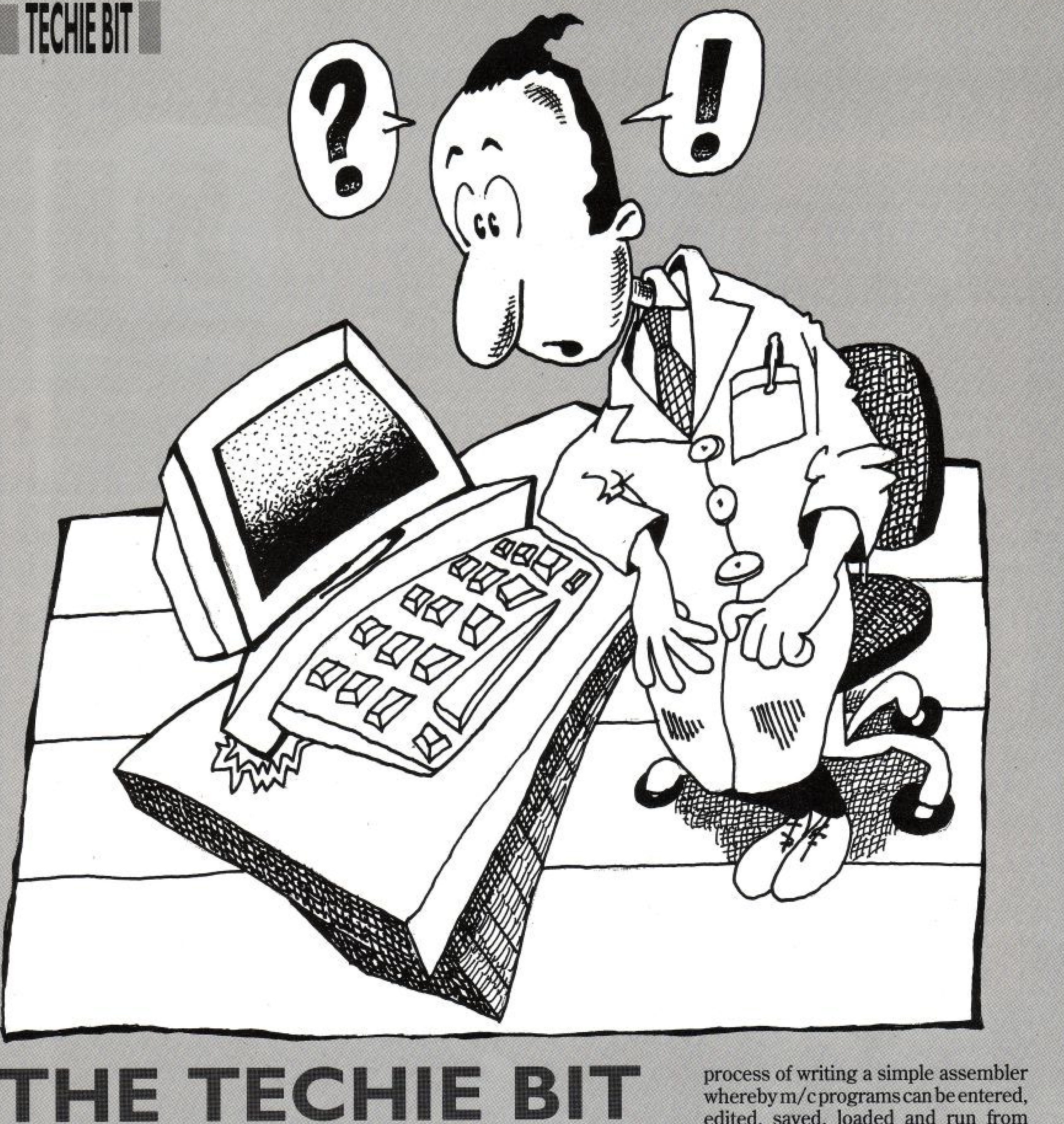
```
10 INK 2,18:DIM t(35):EVERY 40,1 GOSUB 100:FOR a=5
 TO 35:t(a)=3:NEXT:GRAPHICS PEN 3:SC=0:LI=3:MODE 1
:d=0:c=0:e=0:LOCATE 3,5:PRINT">":LOCATE 3,17:PRINT
">":LOCATE 37,5:PRINT"<":LOCATE 37,17:PRINT"<":FOR
 A= 5 TO 35:PEN 2:LOCATE A,21:PRINT "O"
20 LOCATE A,22:PRINT "O":LOCATE A,23:PRINT "O":NEX
T:PEN 1:LOCATE 5,25:PRINT"SCORE":LOCATE 27,25:PRIN
T"LIVES":LOCATE 18,11:PRINT"READY":LOCATE 17,12:PR
INT"ANY KEY":CALL &BB18:LOCATE 18,11:PRINT"      ":
LOCATE 17,12:PRINT"        "
30 X=INT(RND(1)*30)+5:FOR Y=1 TO 20:LOCATE X,Y:PRI
NT"*":LOCATE X,20:PRINT" ":IF Y>1 THEN:LOCATE X,Y-
1:PRINT" "
40 A$=INKEY$:IF A$="    "AND d=1 THEN MOVE 580,328:DRA
W 40,328:FOR A=1 TO 150:NEXT:GRAPHICS PEN 0:DRAW 5
80,328:GRAPHICS PEN 3:c=1:d=0 ELSE IF a$=" " AND d
=1 THEN MOVE 580,136:DRAW 40,136:FOR A=1 TO 150:NE
XT:GRAPHICS PEN 0:DRAW 580,136:GRAPHICS PEN 3:e=1:
d=0
50 IF c=1 AND y=5 THEN sc=sc+1:c=0:LOCATE X,Y:PRIN
T" ":GOTO 30 ELSE IF e=1 AND y=17 THEN sc=sc+1:e=0
:LOCATE X,Y:PRINT" ":GOTO 30
60 C=0:E=0:IF y=20 THEN t(x)=t(x)-1
70 IF t(X)=2 THEN LOCATE x,21:PRINT" " ELSE IF t(X
)=1 THEN LOCATE x,22:PRINT" " ELSE IF t(x)=0 THEN
LOCATE x,23:PRINT" "
80 IF y=20 AND t(x)<0 THEN li=li-1:IF LI<0 THEN LO
CATE 16,11:PRINT"YOUR DEAD":FOR A=1 TO 4000:NEXT:R
UN
90 LOCATE 12,25:PRINT sc:LOCATE 34,25:PRINT li:NEX
T:GOTO 30
100 D=1:RETURN
```

BLACK & WHITE

BY STEPHEN RAMSAY

The last, but by no means least, of Stephen's offerings this month is a simple, but effective graphics demo, building up into a stylish image on your screen. Run it and see for yourselves.

```
10 MODE 1:INK 2,26:INK 3,0:BORDER 13:INK 0,13:GRAP
HICS PEN 2:DEG:MOVE 320,390:FOR A=0 TO 370 STEP 10
:IF a=190 THEN GRAPHICS PEN 3
20 DRAW SIN(A)*190+320,COS(A)*190+200:NEXT:MOVE 32
0,390:FOR A=0 TO 180 STEP 5:DRAW SIN(A)*95+320,COS
(A)*95+295:NEXT
30  MOVE 320,200:FOR A=360 TO 180 STEP -5:DRAW SIN
(A)*95+320,COS(A)*95+105:NEXT:MOVE 320,125:FOR A=0
 TO 360 STEP 15:DRAW SIN(A)*30+320,COS(A)*30+95:NE
XT:MOVE 320,335:FOR A=0 TO 360 STEP 15:DRAW SIN(A)
*30+320,COS(A)*30+305:NEXT
40 MOVE 200,200:FILL 3:MOVE 500,200:FILL 2:MOVE 32
0,110:FILL 3:MOVE 320,330:FILL 2
```



THE TECHIE BIT

Oh no! Not that Simon Watson chappie again? Yes, I'm afraid so. Not only have I stepped into Doc's shoes (and very nice shoes they are too) but I'm also going to be writing this slightly more technical column each month. Technical doesn't necessarily mean difficult to understand, so I'll be trying to include something for everyone's ability.

If the mere mention of machine code makes you break out in a cold sweat and you find yourself cowering behind the settee in fear, then our monthly beginner's machine code tutorial could be just the cure. This will be targeted at those who have mastered BASIC but are unsure how to make the transition to the dreaded m/c. To try and make this as easy as possible, I'm in the process of writing a simple assembler whereby m/c programs can be entered, edited, saved, loaded and run from within the familiar surroundings of BASIC. If all goes according to plan then hopefully this can be included on a future cover cassette – fingers crossed!

Good news has arrived for the more advanced CPC drivers as Dr Watson begins a new investigation of the more complex areas of CPC land.

For those who have grasped the rudiments of machine code, there'll be plenty of handy little routines of machine code, there'll be plenty of handy little routines to help you access some of the Amstrad's more complex areas: RSXs, interrupts, CRTC, floating point calculations, sound chip, disc routines, CRTC, floating point calculations, sound chip, disc routines, the second bank of memory etc. Even if you're a seasoned CPC hacker, why not send in your own pearls of wisdom so that others can benefit from your knowledge – we'll make sure you get your name in lights, well, black ink

anyway! On top of all this, I'll also try and include the odd small electronics project so that those who persevered with the input/output port aren't left out in the cold. One such project is an 80 pence widget that allows four I/O ports to work simultaneously – more than a match for any garden railway.

Even though I've got plenty of ideas myself, I'm looking forward to receiving lots of letters, requests and suggestions. So if you're muddled by mnemonics, baffled by the bios, stumped by stepper motors, or simply irritated by alliteration, drop me a line at the usual address. All in all, whatever you want to do with your CPC, no matter how serious or light-hearted, ACU has got it covered.

The first plea for help comes all the way from Australia from Pyrhi (pronounced PIE-REE, or so I'm told) who's having a spot of bother accessing the disc ROM routines...Bruce – sorry I couldn't help myself.

If all you want to do is load and save areas of memory as files then the following pieces of code should be just the thing:

```
; to save a file
ORG &8000
LD DE,&4000        ; location of 2k
                     buffer
LD B,8             ; length of
                     filename
LD HL,filename     ; location of
                     filename
CALL &BC8C
LD HL,&9000        ; start of file
LD DE,&800         ; length of file
LD BC,&9200        ; execution
                     address
LD A,2             ; type of file
                     (2=binary)
CALL &BC98
CALL &BC8f
RET
filename:
DB "TEST.BIN"      ; name of file

; to LOAD above file
ORG &8000
LD DE,&4000
LD B,8
LD HL,filename
CALL &BC77
LD HL,&9000
CALL &BC83
CALL &BC7a
RET
filename:
DB "TEST.BIN"
```

If on the other hand, as I suspect, you want to take direct control of the drive then take a look at the code below.

```
; to read a sector
ORG &8000
LD HL,command      ; location of
                     command
                     name
CALL &BCD4         ; KL-Find-
                     Command
LD (temp1),HL      ; store address
                     of routine
LD A,C
LD (temp2),A       ; store rom
                     number
LD HL,&4000        ; where to put
                     sector data
LD E,0             ; drive number
LD D,0             ; track number
LD C,&C1           ; sector number
RST &18            ; execute
                     routine
DW temp1
RET
command: DB &84 ;  number of
command to find
temp1: DW 0
temp2: DB 0
```

This will read sector 1, track 0 from a data format disc in drive A and store it at location &4000. The sectors on a system format disc are &41→&49; &1→&8 in IBM format; and &C1→&C9 in data format. By altering the value stored in 'command', the program could be used to write a sector, move to another track, alter disc error handling, format a track etc. The necessary command numbers and the parameters needed can be found in the firmware manual. Remember to add &80 to the command number as CP/M is a foreground rom. Depending on your assembler, you may be able to replace RST & 18 and the line below it with RST 3,temp1.

Machine Code Tutorial – Part 1

At the heart of every computer is a CPU (central processing unit) which is basically the bit that does all the work. In microcomputers, the CPU is a silicon chip called a microprocessor. There are various microprocessor designs around, from a variety of manufacturers, but the one used in all Amstrad's home computers is the Zilog Z80.

The Z80 is capable of performing around 300 very simple operations such as adding two numbers. When we talk about a machine code instruction, what we mean is a numerical code given to the microprocessor, telling it which operation to perform. These numerical codes are stored in the computer's 65536 memory locations.

As soon as you switch on your Amstrad, the Z80 carries out the operation stored in location zero, then location one and so on – steadily working its way through the memory. Of course, an instruction may tell it to jump to a different location and start executing the instructions found there. Different instructions can make it communicate with other, less 'intelligent', circuitry which controls things like the screen, disc drive, keyboard etc.

When you are programming in BASIC, all you are actually doing is using a large machine code program – written by those clever people at Locomotive Software. Their program ensures that when you press a letter it appears on the screen, as well as doing all the other trivial tasks that you probably take for granted. When this program realises that you have typed 'RUN', it goes through your BASIC listing converting it, one line at a time, into hundreds of machine code instructions which the Z80 can understand.

This conversion process (known as 'interpreting') obviously takes time and this accounts for the slowness of programs written in BASIC. Not only will handwritten machine code programs be significantly faster, they generally consume less memory space, and you will have direct access to all that your computer has to offer – not just what Locomotive BASIC lets you do.

If your reason for learning machine code is to try and escape the limitations of BASIC then this last remark may well sound like good news. The trouble is that to do some of the high-level things that BASIC does for you is actually very difficult. Machine code instructions are really only concerned with sending numbers to/from memory and manipulating them in very simple ways. It will take hundreds or thousands of these tiny instructions to create programs with the level of sophistication that you are used to.

It is for this reason that many people use BASIC for the majority of their programs, only switching to machine code for the speed-intensive parts. However you wish to employ m/c, there is no doubting the increased power and satisfaction that it brings to your programming – the ability to converse directly with your machine in its own language.

Next month we'll begin by taking a more detailed look at the computer's memory, and see why humans are actually six fingers short!

Regular readers will know that amongst Mark Eltringham 's considerable talents,in his spare time (?) he is also something of a statistician? He recently wrote to me saying: "Do you know *(not a lot of people know this)* that the period from October 1990 to May 1991 has heralded 54 adventure releases (including re-releases) for the CPC. The year previous to October 1990 saw only 10 releases in the entire year!" Well that certainly makes you think, doesn't it and it also further enforces my opinion that the CPC adventure scene is very healthy indeed. After all, these good people would not be wasting their time producing and selling all these lovely adventures if there wasn't somebody buying and playing them. So well done everybody and let's see some more good news like that. You never know, eventually the major software houses just may wake up and take notice as despite all their predictions, the text-only adventure is still as popular as ever , yet *they* gave it up for dead five years ago!

Mark's own company – the tongue twisting Recreation Re-Creation – have also released more adventures this month. Some old and some new, so take your pick out of the bunch below:- Phew, what a list! These adventures are in addition to the ones I mentioned last month. It is great that these sought after golden oldies are being released again, alongside the authors of today who are hoping to become the greats of tomorrow. Recreation Re-Creation can be found at:- 39 Gargle Hill, Thorpe St Andrew, Norwich. NR7 0XX. (0603 31678)

As if to give Mark some more figures to add up, WoW Software, run by another of our Scrollers – Joan Pancott – have been adding to their catalogue yet again. The following are all written by Simon Avery, who is very well known in the Public Domain scene, having previously released a string of "free" adventures. He has now decided to write for the commercial market and I wish him the best of luck. The titles are:-

TOTAL REALITY DELUSION (TRD.)
PRISON BLUES
MAGICIAN'S APPRENTICE
All three are priced at £2 on tape and £4 on disc.

Three more adventures by different authors are also available:-

SMIRKING HORROR by Jason Davis (the author of YARKON BLUES).

ADVENTURES OF ZEBEDEE GONIG by Darren Thomas.

Both priced at £2 on tape and £4 on disc.

ANGELICUS SAGA (2 parts) by M & MJ Crewdson. Priced at £3 on tape and £5 on disc.

You can contact WoW at 78 Radipole Lane, Weymouth, Dorset. DT4 9RS. (0305 784155).

Last month Larry Horsfield of FSF Adventures, was offering ACU readers an exclusive £1 off his games AXE OF KOLT & MAGNETIC MOON, and again this month he has invented a way of getting me to mention his games! He has a competition that is available to all purchaser's of AXE OF KOLT. In this game, several of the characters have names that are anagrams of well known personalities of the adventure world. All you have to do is identify who they are and the first complete solution sent to Larry will win £50. Not bad eh? You can contact FSF Adventures at 40 Harvey Gardens, Charlton, London. SE7 8AJ (081 858 1532) and remember to mention ACU for your pound off.

Saddest news of the month concerns the demise of the Adventurers Club Ltd. The club has been going since 1985 and has provided a bi-monthly magazine (on and off) full of information for adventurers. The club is selling off all its stock and refunding subscriptions. By the time this appears in print, the owner will have probably emigrated. So farewell ACL. Anybody else fancy starting up another club to replace it?

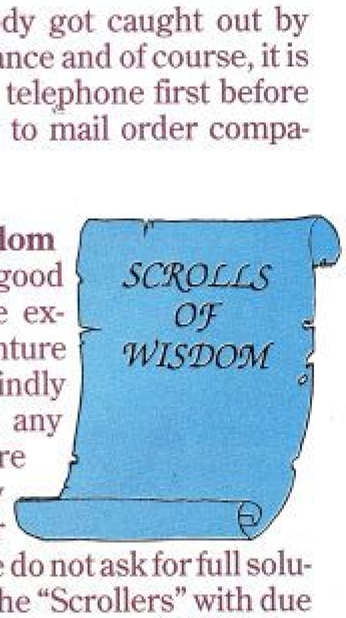
It also appears that Comsoft, whom I recommended in the June issue as stockists of old adventure titles, have also recently ceased trading. I sincerely hope that nobody got caught out by their disappearance and of course, it is always wiser to telephone first before sending money to mail order companies.

Releases new and old to keep adventure freaks on their toes

The Dungeon Master

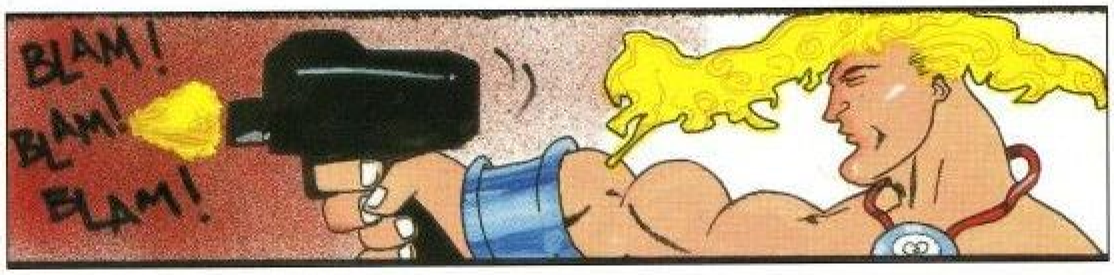
Title:	Author:	Tape	Disc
LAST BELIEVER	Paul Lucas	–	4.50
FEDERATION	Mike White	2.50	4.50
CRASH LANDING/JOURNEY TO DEATH	Simon Langan	2.00	4.00
BAKTRON, ALIENS & MAGIC	Tony Kingsmill	4.50	6.50
WEREWOLF SIMULATOR	Charles Sharp	2.00	4.00
A.R.E.N.A	Chares Sharp	2.00	4.00
JOLLY POPPA DOWN	Charles Sharp	2.00	4.00
DRUIDS MOON	Charles Sharp	2.00	4.00
ZED	Paul Robson	2.00	4.00
ICHOR	Lee Jones	2.00	4.00
BASE (Quilled)	Ken Bond	1.50	3.00
HERMITAGE	Tony Collins	2.00	4.00
THESEUS (2 parts)	Tony Collins	2.50	4.50
TEACHER TROUBLE	Tony Collins	2.00	4.00
MIAMI MICE	Tony Collins	2.00	4.00
NYTHMYEL (2 parts)	Tony Collins	2.50	4.50
TRAVEL (2 parts)	Dave Lewis	2.50	4.50
DEADENDERS	Carol Sharp	2.00	4.00
TRAVELLER	Mike Stanworth	2.00	4.00

Scroll Of Wisdom



The following good people who are experienced adventure players, have kindly offered to help any readers who are having difficulty with a particular problem. Please do not ask for full solutions and treat the "Scrollers" with due respect. Either telephone ONLY during the times shown or include a stamped S.A.E if you write to them.

Dave Havard, 21 Belvoir Close, Fareham, Hants. PO16 0PJ. Dave is



willing to provide help on the CPC Infocom range:-

Ballyhoo, Cutthroats, Deadline, Enchanter, Hitchhikers Guide, Hollywood Hi-Jinx, Infidel, Leather Goddesses, Lurking Horror, Moonmist, Planetfall, Seastalker, Sorcerer, Spellbreaker, Starcross, Stationfall, Suspect, Suspended, Wishbringer, Witness, Zorks 1, 2 & 3.

Jim Struthers. 112 Disraeli Street, Cowpen Quay, Blyth, Northumberland. NE24 1JB. Jim has been keeping his 464 busy with:-

Aftershock, Apache Gold, Atalan, Beerhunter, Black Knight, Big Sleaze, Castle Blackstar, Castle Dracula, City for Ransom, Dracula, D.A.A, Escape from Khoshima, Emerald Isle, Forest at the Worlds End, Frankenstein, Grue-Knapped!, Gremlins, Helvera – Mistress of the Park, Heroes of Karn, Hunchback 3, Imagination, Jewels of Babylon, Magician's Apprentice, Message from Andromeda, Microman, Mindshadow, Neverending Story, Nova, Nythmyel, Orifice from Outer Space, Panic beneath the Sea, Prison Blues, Project Annihilation, Price of Magik, Rick Hanson, Seabase Delta, Shymer, Souls of Darkon, Styrptische, Talisman of Power, Top Secret, Village of Lost Souls, Warlord, Werewolf Sim, Wolfman & Winter Wonderland.

Adventure Tips

For those of you still battling your way through WISHBRINGER, here is Part 2 of Dave Havard's tips. (Part 1 appeared last month).

The Boot Patrol
You will have to be caught by them once in order to escape from the grue's nest! Look under the bunk, get the blanket, get all, drop all except stone through hole, go down hole. If you are unfortunate enough to be captured twice, you need to eat the chocolate and wish for freedom, if you are carrying the stone. Should you be dumb enough to get caught a third time, you will only survive if you helped the seahorse in part 1. You get plenty of warning of the approach of the boot patrol, but making a map as you go is helpful as well.

Grue's Nest
Put the blanket over the baby grue. The worm from the fridge is needed later. The bottle is another wish component.

Lakeside
Put the broken branch down the hole. Dig at the X. Blow the whistle.

Pelican
Give the wizard's hat to the pelican. Make a note of the word that he shows you. This is what you say to open the drawbridge late in the game.

The Theatre
You can enter any time after it opens. Buy the ticket from Miss Voss with the coin from the fountain. Give the ticket to the gravedigger. The 3D glasses can be found under your seat. Apart from being a wish component, they are also needed later in the game.

The Fountain
The second part has a token in it which is being guarded by a piranha. Drop the worm into the fountain so you can get the token.

The Arcade
This is the way past the Hellhound (once a poodle!). Put the token into the slot, examine the screen and the star. Use the map which comes with the game to move the star to the top of the hill, where you start the game. Pressing the red button transfers you to the star.

The Tower
To get into the tower, say the word given to you by the pelican when you gave it the wizard's hat.

Professor Crisp
When he has caught you, you still have your inventory. Give him the note that Miss Voss gave you from part one. when he has gone, get and search his coat. Unlock your chains with the key you find. Then free the princess.

The Paintings
Look behind them to find the crank for the drawbridge.

The Laboratory
Wear the glasses from the theatre to see properly. Don't disturb the cat as it is the wrong one. Examine the panel and pull the second switch.

The Hellhound
Read the note that Professor Crisp leaves behind. This gives you the command to placate it.

The Library
Unlock the door with the key from Miss Voss's cottage. Don't worry about the door closing behind you. Examine the display cabinet. Break it with the horseshoe.

The Sculpture
Examine it. Put the Stone into the hole. The old lady who tries to talk you out of it is evil. Ignore her and do it!

If you have any clues or hints that you would just love to pass on to your fellow adventurers, or if you have a particular game that is driving you up the wall and would like to see some help about it printed here, then just write to me here at ACU and I'll take care of it for you.

And finally, do you have any old finished Infocom games gathering dust somewhere and would you like to swap them for something else? Then drop a line to the INFOCOM SWAP 'N' BUY CLUB, 167 Eastbourne Road, Lower Willingdon, Nr Eastbourne, Sussex. BN20 9NB. Nic Rumsey keeps a database of people who have original games to swap, plus those who are searching for a particular Infocom. He should be able to put you in contact with somebody and you can then arrange your own deal. By the way, this is a free service so make sure that you send Nic at least a SAE.

Once again we've run out of room, so I'll see you all again next month. Until then, happy adventuring.



HAIRY HACKER

STIRRING IT UP

Hairy pulls another mixed batch out of his cauldron to help you high-flyers.



Crumbs! That's what you get when you try eating crackers in bed after a long hacking session. I should know, it's a regular occurrence in my pit. Be warned, save those crackers until breakfast.

OK. Pin back your lugholes and get set for a real motley collection of goodies this month, starting off with some gems from the depths of Blackpool.

This little selection of multiface pokes should keep you up to scratch and they come courtesy of Jim Kenworth. So, power up your poking pack and get blasting.

How's that for starters? Not bad, eh? Oh, just one more, this time from David Gabellone who has obviously spent more time playing Dizzy then he has at the supper table. It goes like this: 9539,00 and should give you infinite lives on the original Dizzy blast.

Moving on from you lucky multiface owners, we'll come back down to Earth a bit now, with some nifty keypress pokes to help you on your way.

For Xenon, press ESC to pause, then hold down T,I,N,Y and a message appears giving you infinite lives.

Select the password option and type in Judge Dredd to get infinite everything on Venom Strikes Back.

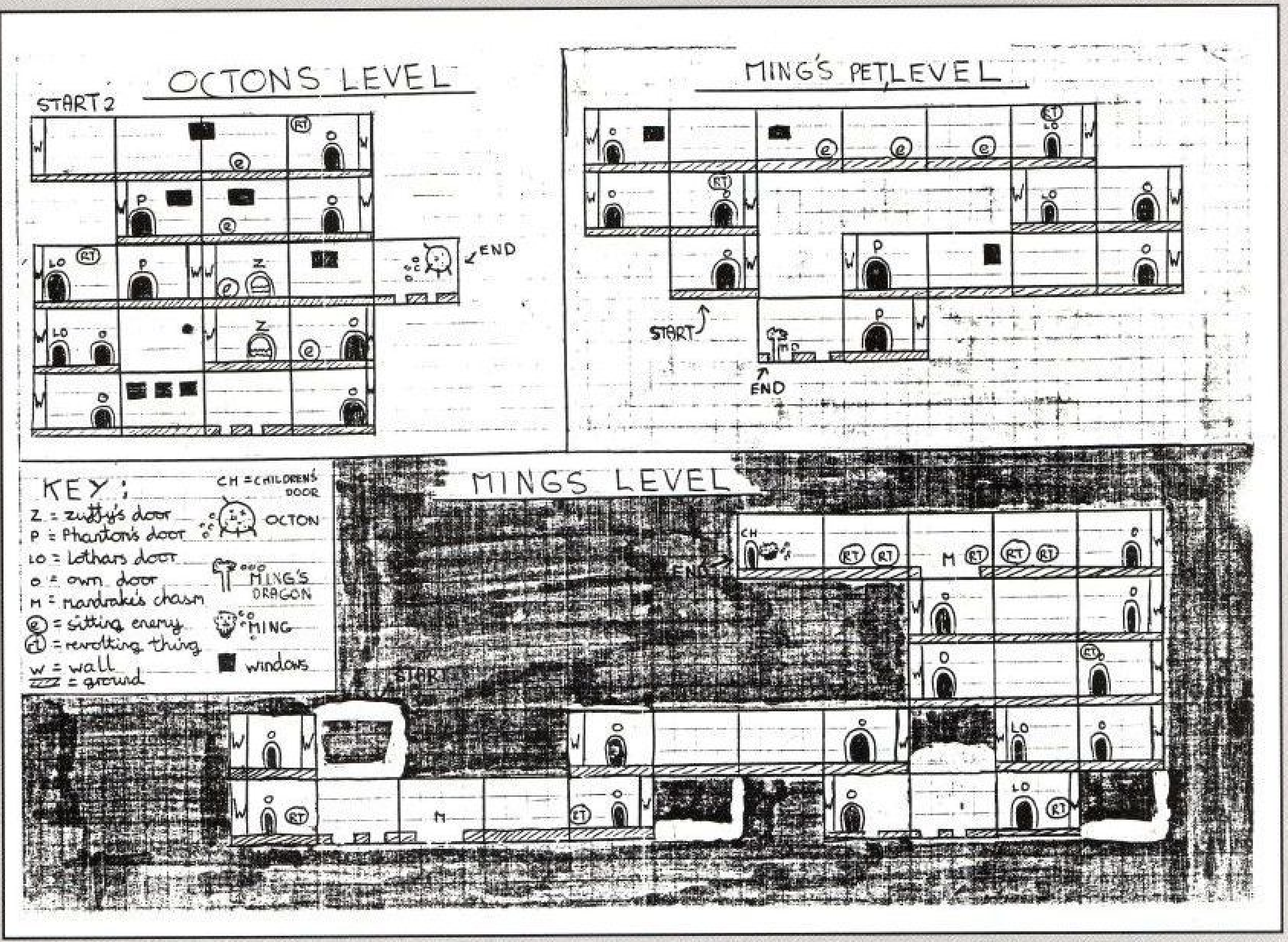
Pressing down T,H,U,G,I on the options table will get you infinite energy on Hong Kong Phooey.

For Blazing Thunder, holding down S,L,I,M,E on the options table will get you infinite lives.

Redefining the keys to I,C,E will get you the same on Yogi's Great Escape.

On Total Recall, type The End Is Nigh on the high score table and, by

Program	Pokes	Comments
Colony	&2DE9,&FF	Gives £2560 cash
Sim City	&3B9B,&FF	Over £65000 cash
	&3C74,&FF	
Space Trader	&659A,&00	No time limit or
	&659B,&00	landing taxes
Green Beret	&0DE5,n	Where n = No. of lives (Max &FF)
R-Type	&7AA0,n	Where n = No. of lives (Max &FF)
Saber Wulf	&986A,n	Where n = No. of lives (Max &FF)
Kane	&1E7D,n	Where n = No. of lives (Max &FF)
Sidearms	&0686,n	Where n = No. of lives (Max &FF)
Chuckie Egg	&9CEF,n	Where n = No. of lives (Max &FF)
Exolon	&BE81,n	Where n = No. of lives (Max &FF)
Airwolf 2	&822B,n	Where n = No. of lives (Max &FF)
Zynaps	&5F7E,n	Where n = No. of lives (Max &FF)
Flying Shark (P1)	&B7B3,n	Where n =No. of bombs (Max &FF)
	&B7AD,n	Where n=No. of lives (Max &FF)
Flying Shark (P2)	&B7BF,n	Where n=No. of bombs (Max &FF)
	&B7B9,n	Where n=No. of lives (Max &FF)
Lords of Chaos	&979E,&FF	...Method... Select a wizard from the designer, increase the character's MANA bit. Enter the poke via the multiface then return to the game. Increase all characteristics to max and all spells to max (except the gold dragon) then save your wizard for further use. Repeat all these steps for each wizard you want to use.



pressing F4, F6 and the down cursor, you should be transported onto the next level.

Last, but by no means least, some Sim City tips: always put your power station on a remote island and make it nuclear so that it does not cause pollution.

An easy way to make profit every year is to reduce tax to 0% in January and then change it to 20% in December. Repeat and ignore tax too high message. If this works and you have a substantial area built up, then build an airport.

Those little prize winners were beautifully crafted by Mark Fell of Stanton St Bernard, which sounds like an excellent breeding place for big dogs but, there you go, I always did have a very warped sense of humour.

On a totally different note, I have received a note from Terry Bryant of `11 Buxton Court, Lansbury Park, Caerphilly, Mid Glam. CF8 1RG.

Now, Terry has sent in some invaluable passwords for Helter Skelter, which follow shortly. Firstly, however, he would like it known that he is on the lookout for penpals, to swap pokes, hints, tips and mags for both his 6128 and his 464. He would also like help in BASIC and Machine Code. So, if you would like to get in touch with him and give him and his two sons a hand, I'm sure they'd be eternally grateful.

Fair enough? Now onto the passwords. In ascending order, the passwords to each level of that barnstormer Helter Skelter are: Gash: Gosh: Dosh: Dish: Disk: Dusk: Musk.

Clever Terry used Maxam II to find that lot. What a handy device it is. Terry also sent in a little joke with his passwords, but, due to the sensitive nature of our Ed., I'm afraid I can't enter it on these hallowed pages. So, if you want to know what it was, you'd better get in touch with Terry and ask him yourself.

Look out! It's map time again. Following on from last month's foray into the art of mapping it out, I hope that all you lot out there are now furiously scribbling down pathways and passages at every lull in the blasting.

If not, I want to know why not. Anyway, this month's offering comes in the form of a complete outline of Defenders of the Earth, including Octon's level, Ming's Pet level and Ming's level as well.

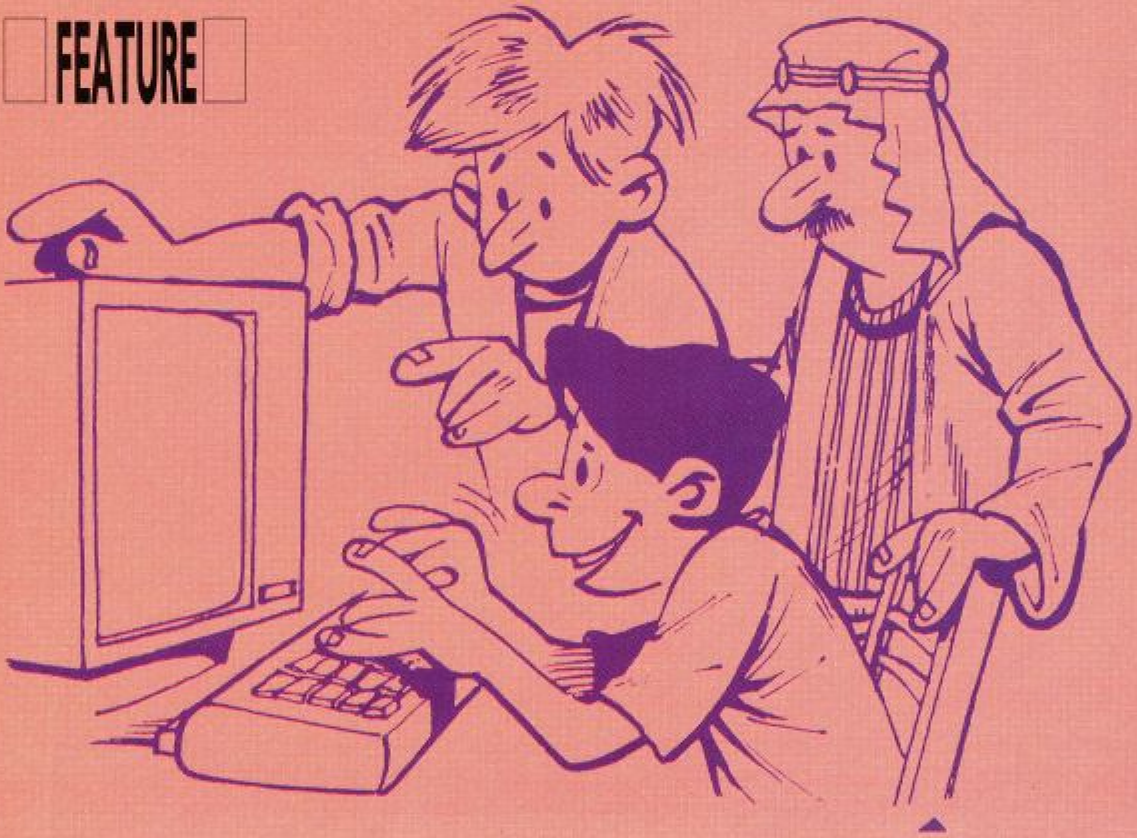
All of the locations are indicated, so you shouldn't have too much trouble working it out. Look through it and have fun following it through the real blast.

Well, it looks like space has got the better of us again for another month so, to round off, try this excellent tape cheat for Combat Lynx from the bottomless pit of Graham Smith's workshop. Follow the instructions and get blasting.

```
1 'COMBAT LYNX CHEAT
2 'By Stephen Matthews
3 'Remove line 4 if you use a normal 464!
4 |TAPE
6 '
10 MODE 2: PRINT "Please Enter Number Of Choppers:": INPUT a
20 CALL &BB00:CALL &BB4E: CALL &BBBA: CALL &BBFF: CALL &BC65: CALL &BCA7: CALL &BCC8
30 MODE 1: CALL &BC00: LOCATE 10, 12: PRINT "COMBAT LYNX - LOADING"
40 MEMORY &1600: LOAD"!SCREEN": CALL 36608
50 LOAD "!MAIN"
60 POKE &5899,a
70 CALL 32138
```

To wrap up, try this little riddle for size: If Ed the Koala was only halfway up the Eucalyptus tree, what time did he have his breakfast?

Answers on a postcard please. See you next month.



IN THE BEGINNING...

In which Colin Jackson finds a little serenity amidst the zapping and blasting on the computer screen.

It cannot be denied that in this modern day and age, religion and computers have one unfortunate thing in common; they both take a bashing from time to time, so it makes a very refreshing change to be able to contact someone who holds the interests of both in very high esteem.

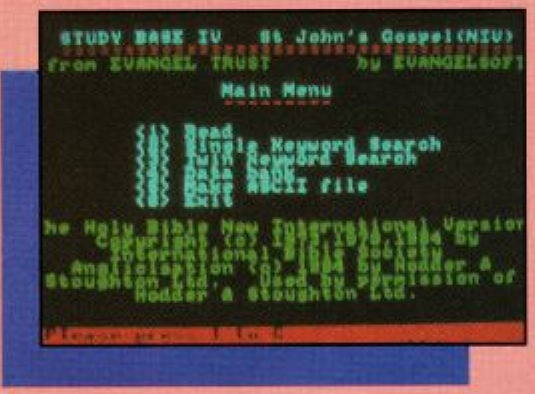
The person in question, is one Doctor Ken Dean who, on retiring from the demanding role of Principal of the South East London College, decided to "do something worthwhile" with his new found spare time.

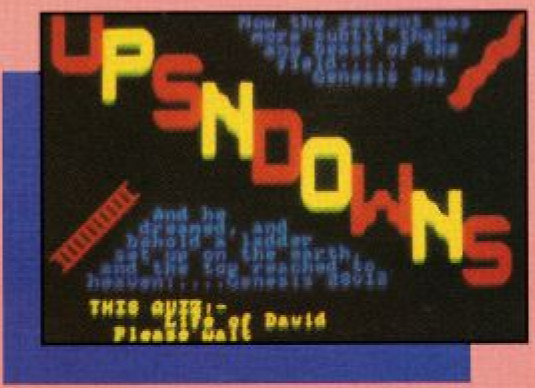
That something worthwhile materialised towards the end of 1987 in the form of a registered charity called Evangeltrust, an inter-denominational Christian charity with the purpose of producing Bible-based teaching aids for use in schools, churches and family environments.

In itself, this is surely a welcome cause and one worthy of note in any publication, though Dr. Dean's choice of medium for the charity, the home computer, gives us a prime excuse to give Evangeltrust the attention it rightly deserves for its good works. Evangelsoft, the software publishing arm of the charity, consists wholly of programmers who give their services without charge, providing high standard software at minimum cost.

Using the expert knowledge of senior teachers, specialist advisers, ministers and evangelists, the finished products bearing the Evangelsoft label are both educational and entertaining, helping to spread the gospel from the Good Book, whilst at the same time, allowing youngsters to pick up invaluable keyboard skills for use in later life, both at work and at home.

Although the Evangeltrust charity is only registered as such in England to date, the board of Trustees, the members of which come from a number of mainstream churches, is planning to expand its activities overseas. As a result, all of the profits from the Evangelsoft label are covenanted to the Trust, to enable further work to be carried out abroad.





As an example of the broadranging attitudes of the charity, a conscious decision was made at the foundation of the Evangelsoft label not to support just one type of computer which means that, whilst the Amstrads, Acorns and IBM compatibles are presently catered for, this list will soon be significantly expanded, to allow full coverage of the home computer scene.

What does that mean to us CPC fans? It means that the full range of the Evangelsoft products are available to us right now and, having read through a brief outline of some of these products, you may wish to put pen to paper to Dr. Dean straight away. They really are that good.

These Bible based pieces of software range from study databases to full graphics based games and are all educational as well as entertaining.

On the games front, take your pick from some excellent multiple choice question games, which test your bible knowledge on an exceptional variety of Bible subjects, from those we think we know, such as the Easter and Christmas Stories, to those we only vaguely remember from our Sunday School days, like the Gospels, Tribes of Israel, Moses and the exodus and Stories Jesus told.

One such game is The Walls of Jericho, which is a board style game for 1-4 players. March around the walls, taking it in turns to answer questions and watch as the walls fall down. If you answer correctly, that is.

Ups'n'Downs is a classic snakes and ladders game for up to four players where a correct question will stop the dice from rolling and move you up to the top. Just be careful about the snakes though.

Fill up the Waterpots is another multiple choice quiz which will enable you to play against a friend, or even cooperate, to fill the water pots at Cana. Correct questions will set the tap flowing and, at the end of the game, the computer will replay the miracle.

Sunrise Over Galilee is based upon the fishing episode in John 21, for those who know their Bible. Answering the multiple choice questions correctly will allow you to participate in an excellent animated fishing sequence, where the test is to capture more than the 153 large fish that the Disciples caught.

Each of the sets of multiple choice questions are graded from very easy to very hard, making each game a real

challenge, regardless of age.

With each game purchased, five banks of 100 questions are included of varying difficulty, whilst further banks of questions which work with all of the multiple choice games can be purchased separately to allow for longer life on each game.

Quite apart from the excellent multiple choice games, there are also some adventures to be had, such as the Night Visitor, which will see you searching for the house where Jesus is staying. As you walk through the shadows, there are various temple guards and Roman soldiers to avoid in your quest.

Didn't I Do Well is another adventure based upon the exploration of a village which turns out to be much more than first meets the eye.

Each of the Evangelsoft adventures are intended to bring the Gospel to young people who enjoy the challenge of a computer puzzle. Using a multi-choice menu in place of parsers, each adventure has full graphics and should test teenagers very well.

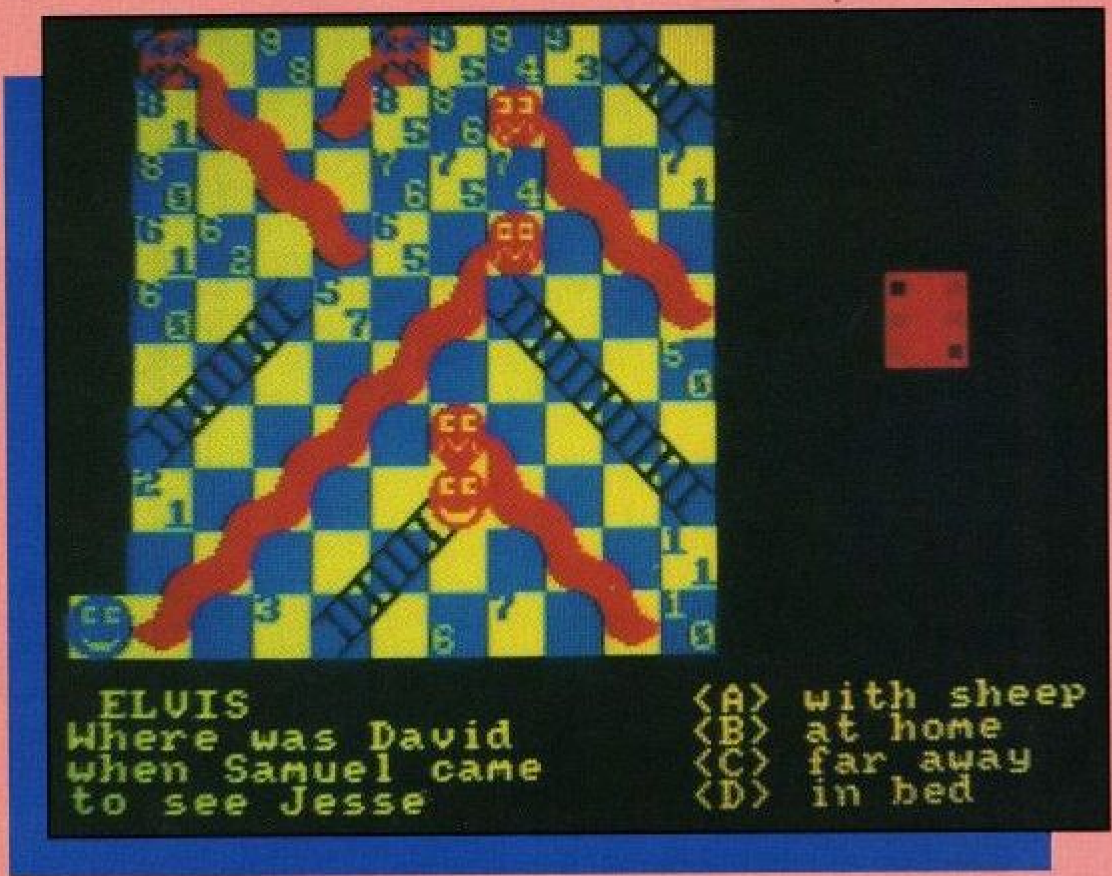
Moving on from the games, Evangelsoft's Studybase series allows for much closer examination of the four Gospels. Working in exactly the same way as a standard database, the user is able to read from chosen texts, search for keywords and input different databanks of text for studying, be it the Miracles of Jesus, or Old Testament quotations.

For anyone with an interest in Bible Studies, or students of religion, the Studybase programs are an absolute must, enabling you a deeper insight into your chosen material whilst, at the same time, allowing you to become competent with database operations.

Along similar lines, the excellent Studynotes program works as a simple word processor, enabling you to bring to screen wordprocessing files of text from the Gospels for direct printing for future reference.

Using option 5 on the Studybase program, you can even formulate your own data files for printing through the Studynotes section, thus enabling you to pinpoint important areas for your own study and print them out.

The aim of the game, as they say, is education and each of the programs mentioned above certainly passes the test with flying colours.



However, this is just a selection from the extensive range of Bible-based games in Evangelsoft's library, which are well worth getting hold of for many reasons, not the least of which being to brush up on your religious knowledge.

For a full list of the programs available to CPC users, why not write off to the address at the bottom of the page but, in the meantime, if you are interested in writing your own programs or games, why not join in the Evangeltrust Best Christian Software Writer competition?

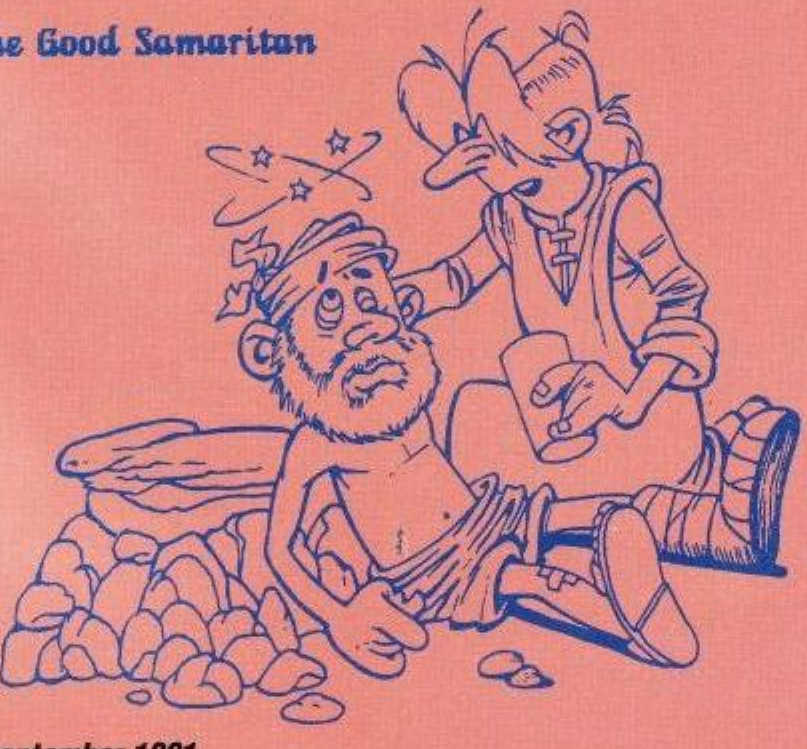
Open to both individuals and groups alike, the aim is to produce your very own Bible based software, be it a study aid or a game, and there are some excellent prizes on offer to the winners.

After all the hard work that Evangeltrust has put in, it's only fair that we should give them something back to reward their efforts, so get those entries in quick.

Spreading the Word is as important in this day and age as it was hundreds of years ago and the choice of the home computer as the medium of doing so means that the Gospels can reach many people who may be stuck at home and unable to go to Church or to church clubs. In this respect alone, Evangeltrust is undertaking extremely important work, which could be represented by calling them Missionaries of the hi-tech age.

I for one wish them every success in their overseas expansion, which should be guaranteed in the light of their present works. Besides, they also have a very good spiritual advisor.

The Good Samaritan



For more information about Evangeltrust, Evangelsoft products, and the competition, contact:
Evangeltrust, PO Box 224,
Kingston on Thames,
Surrey, KT1 2NX.

AMSTRAD COMPUTER USER

ACU

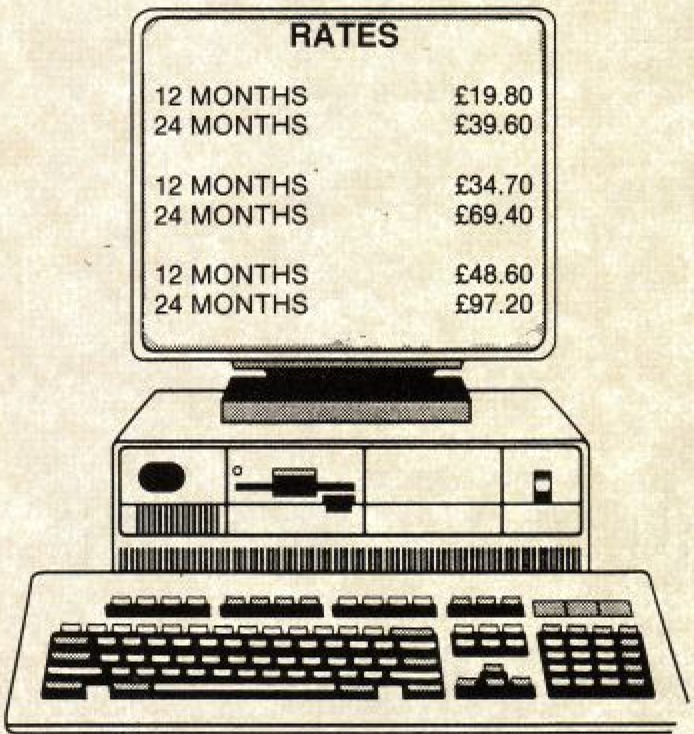
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Offer closes 30th September 1991

Brasso your breastplates and get set for some epic action as the ACU team goes Hero Questing, takes on the balloon Armada in Pang and tries the Confederacy for size in North and South.

BOMB ALLEY

HERO QUEST



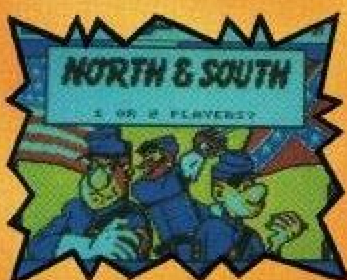
The board game comes to life on the screen. Dare you try it?



PANG

The inflatables are coming? Will you be able to stop them?

NORTH AND SOUTH



Epic Civil War action in the good old US of A.

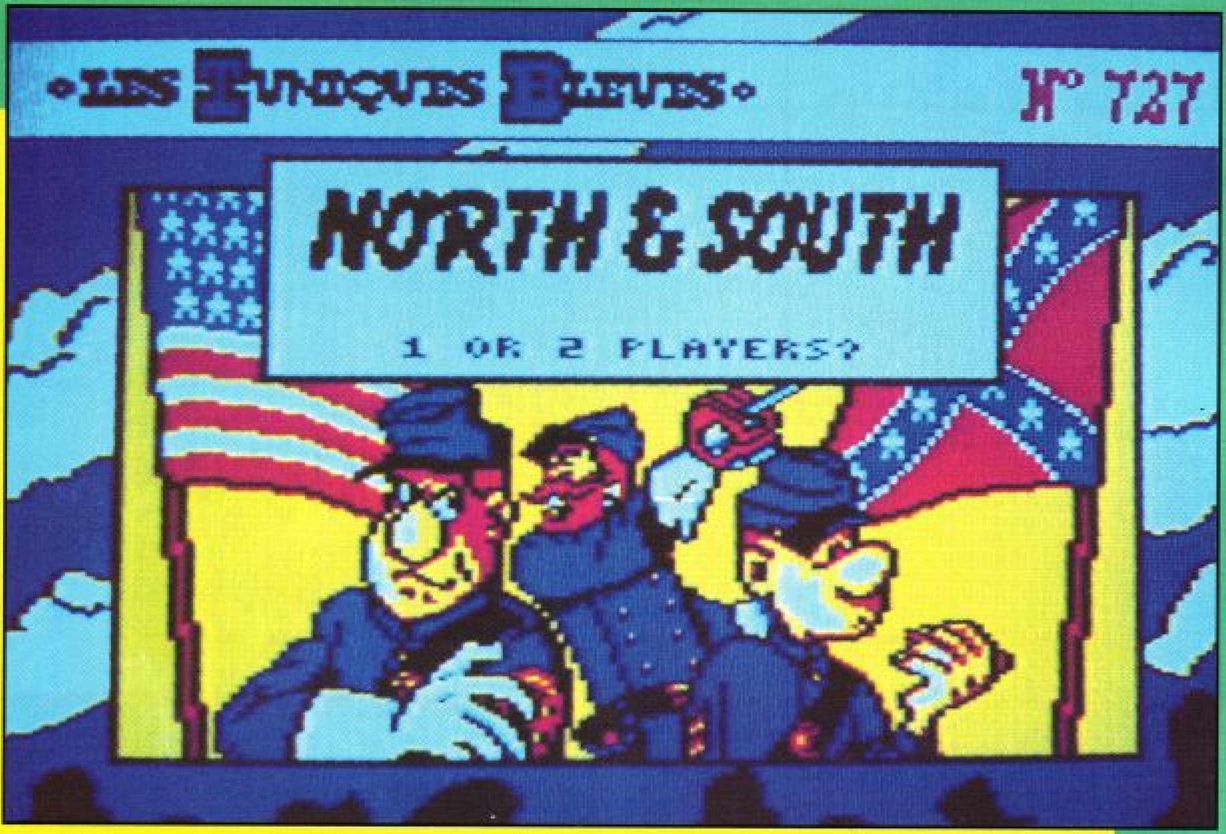
PLUS

Extra cartridge action with Barbarian II, Ninja thrills and spills in Shadow Dancer and a whole lot more including, of course, the best CPC budget coverage around. Miss it and weep!

TOP 20

1 (18) Dizzy panic — Code Masters
2 (1) Magic Land Dizzy — Code Masters
3 (2) Dragon Ninja — Hit Squad
4 (NE) Quattro Cartoon — Code Masters
5 (3) Double Dragon — Mastertronic
6 (15) Quattro Racers — Code Masters
7 (5) Cavemania — Atlantis
8 (11) Quattro Adventure — Code Masters
9 (9) Quattro Firepower — Code Masters
10 (4) Multimixx 1 Golf — Kixx
11 (6) Spitting Image — Hit Squad
12 (NE) Euro Boss — E&J
13 (10) Continental Circus — Mastertronic
14 (17) Operation Wolf — Hit Squad
15 (13) After Burner — Hit Squad
16 (14) Gary Lineker's Hot Shots — Kixx
17 (7) Kick Off — Anco
18 (12) Dizzy Collection — Code Masters
19 (8) Scooby-doo and Scrappy-doo — Hitec Software
20 (NE) Teenage Mutant Hero Turtles — Mirrorsoft

Last month's position in brackets



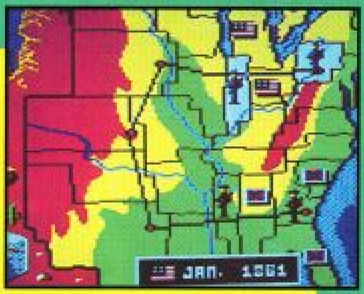
North & South

American civil war action like you've never seen it before.

'The last year (1882) has seen the South gaining victory after victory. But Lee knows that in the long run the North's industrial might will vanquish at last. He needs a decisive victory.' And as a mere corporal (sic) in strategic charge of the battle-hardened Yankee army, it's your job to stop him!

The first, most important task, is to capture the Confederate fort in Iowa. It's the change-over point for the railroad 'gold run', from Pennsylvannia in the east to Texas in the south. If you capture this fort it will stop Johnny Reb re-equipping his fast-expanding army. Purposefully, you march a battalion across the Illinois state line.

General Lee has left the fort lightly defended. You enter and are immediately attacked by a guard and his mangy hound dog. Skillfully you bound up a ladder onto the roof. But there is no escape. Another guard attacks you and with a quick flick of the wrist you account for him. Your throwing knife hits him in the midrift and he falls to the ground – stone, cold dead. For what seems like an eternity you run the gauntlet, avoiding carefully laid explosives, guards and a pack of pit-bull terriers. But you make it and – to the sound of bugles – raise the Union flag.



Meanwhile, in the south your best equipped battalion enters North Carolina. All hell breaks loose. You fight a desperate battle on horse and foot, but it's the might of your cannons that secure a vital victory. An army of European reinforcements arrive by ship to bolster your depleted army. It's been a good start to the year and your campaign is looking good.

North & South (based on the comic, Les Tuniques Bleues) is another super, strategy game from Infogrames. The objective is to win the war against slavery. The Confederate army, lead by General Lee stands in your way.

Strategic gameplay takes place on a large map of (most) of the USA. You are given a number of battalions and must occupy as many southern states as possible. Naturally, combat between rival armies is unavoidable. When you enter a state already secured by Rebels, a special battle screen replaces the map. You then have to fight like hell! Usually the better equipped army wins, but the odds can be upset by determined and exceptional joystick dexterity. Under your control are cavalry, infantry and cannon. Wipe out all the enemy's battalions and you've won the war!

There are three special 'action' scfeens (as well as the map and options screen) and the third is a 'rehearsal' for the Great Train Robbery. Board the train at the rear and jump from carriage to carriage until you reach the loco. Overcome the driver, bring the train to a halt and the gold bullion is yours.

Absorbing gameplay, great pics, good sonics, a two player option and a wry sense of humour all help make North & South one of the best-ever strategy games. Get it!

Vic Barnes



ROUND-UP			
NAME	North & South		
FROM	Infogrames	PRICE	Disc £14.99 Cassette £9.99
95%	87%	90%	JACKPOT
GRAFFIX	SONIX	PLAYABILITY	VERDICT



Pang

If you thought balloons were harmless playthings, think again!

Wizard Pang! Chocks away and get gunning as the balloons start invading the countryside. They are certainly pretty things to look at, but they mean you no good at all and, if you want to survive in this excellent shootie with a difference, you'll need to grease up your trigger finger double quick.

As Pang, the fearless adventurer, your great task is to rid no fewer than 17 countries of the dratted aerial invaders. No mean task at all. Especially when the balloons come in four different sizes, ranging from very big to very small.

Hit the big balloons and they start dividing up into smaller sizes, until they reach the smallest size. Hit the smallest balloons and you finally get rid of them for good, until the next level that is.

Destroy all the balloons and you actually get to move onto the next level, as long as you've still got some breath left for the next onslaught.

If, on the first level and surrounded by the horrible blobs, you think all this sounds impossible, don't worry too much, as help is at hand in the form of power-up blasters.

Getting hold of harpoons and double harpoons will increase your firepower, as will the power harpoon, destroying balloons and blocks in your way.

The handy vulcan missile will help to take out a few balloons, while the dynamite will blast all of the ballons into their smallest size, leaving you to pick them off one by one.

Making good use of the clock and hourglass, you can slow the baddies down, allowing for double pot-shot power.

At the same time, watch out for the different beasties crawling around on your travels. Shoot some, but not all of them, as they may even want to help you. However, it's up to you to find out which are on your side.

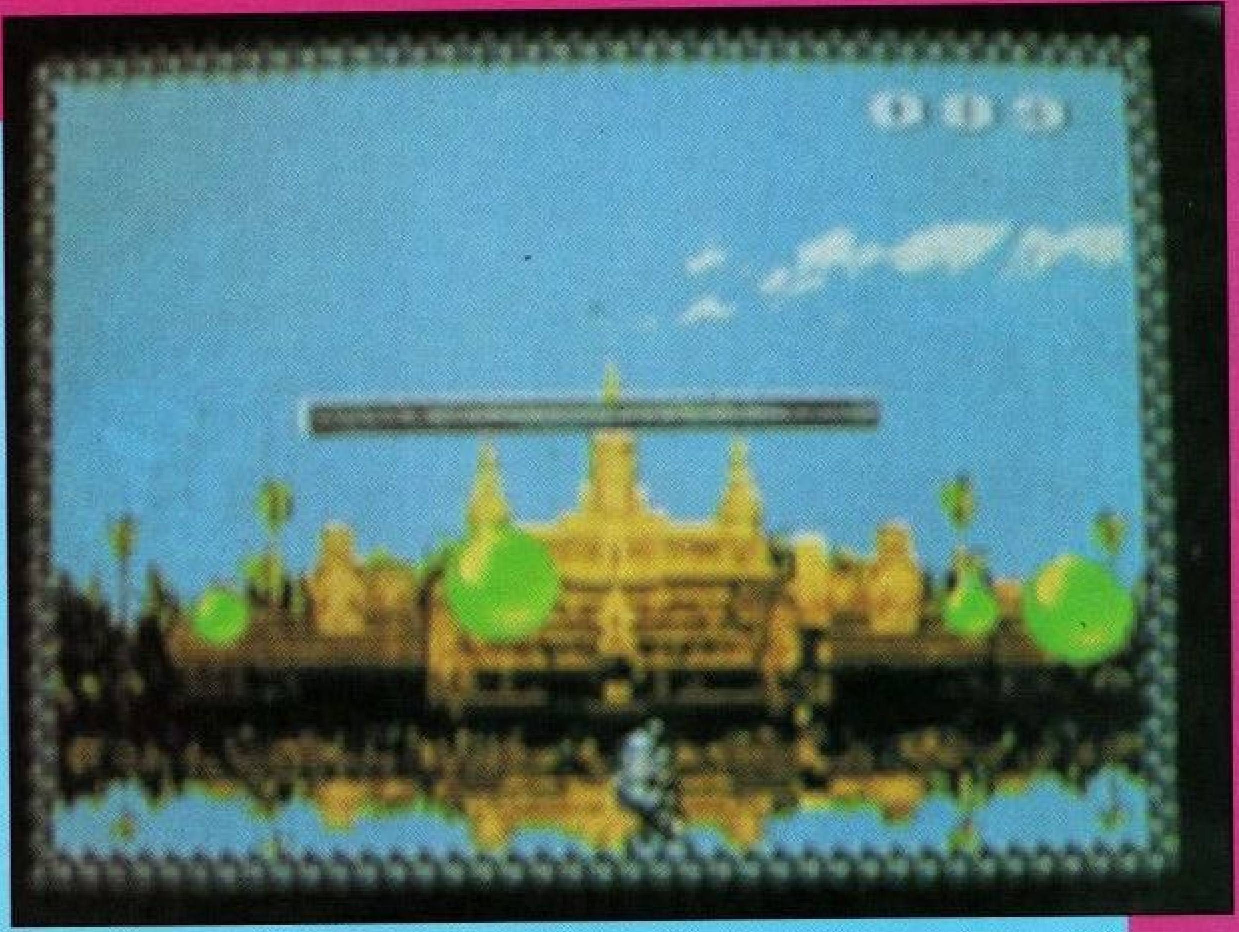
Pang is a brilliantly thought out shootie, using excellent graphics on the cartridge ROM and featuring some superb sound effects.

The screen is divided neatly into play arena and status bars at the bottom of the screen, enabling you to see clearly how well, or badly, you are doing, as well as telling you just where on Earth you are.

With Special bonus points to be had for shooting all the balls of the same size, and time bonuses for quick clear-ups, Pang is a totally addictive blast from start to finish. You certainly won't put it down in a hurry and, if at first you don't succeed, you know what to do. Get back into the fray as soon as possible.

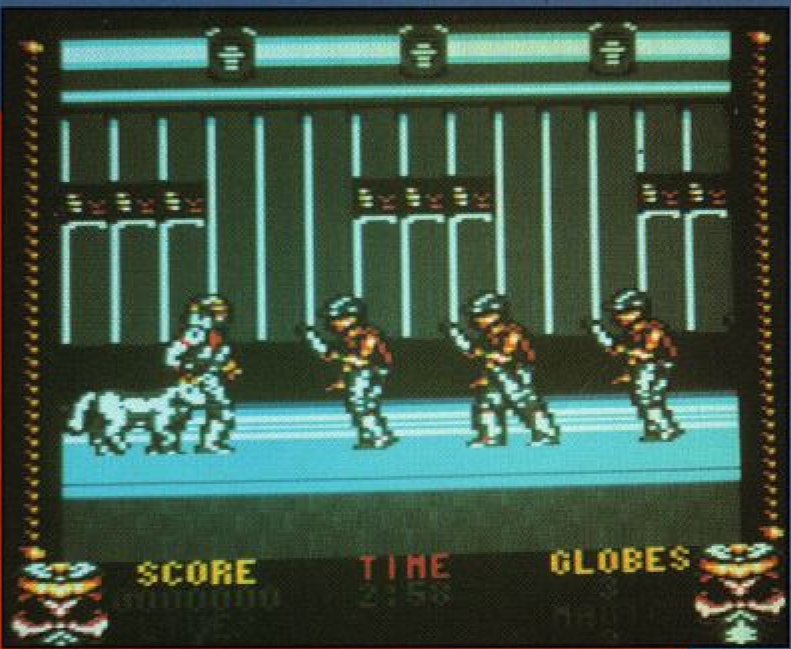
Happy hunting and be careful out there!

John Taylor



ROUND-UP			
NAME	Pang		
FROM	Ocean	PRICE	Cartridge £24.99
94%	90%	95%	GOLD
GRAFFIX	SONIX	PLAYABILITY	VERDICT





Shadow Dancer

Yet more oriental artistry as you take to the streets with your shurikens.

If you haven't mastered your Ninja skills yet, even after the host of oriental bash-em-ups that have been released to date, here's one more chance to do just that, and in some style too.

You, Joe Mushashi, are a Master Ninja. Infuriated at the needless death of one of your students, you decide that the time has come to take the battle out onto the streets against the evil Sauros and his minions.

However, while you have been weighing up the odds and coming to your decision, Sauros' henchmen have had plenty of time to plant time bombs throughout the Metropolis, making your life extremely difficult as you hunt out the Big Guy.

Armed with your Shuriken, Sabre and your devoted canine companion Yamoto, your task is to battle it out against a host of different backdrops, on your way to foiling Sauros' plans, the worst of which is his plan to obliterate the US Shuttle.

However, on top of your weapons, you also have your deadly hands and feet. Mastering the controls is everything in this fast and furious blast, so make sure you know what you're doing before you venture out into the action.

As the enemy approahces, do your worst as quickly as you can, or you could find yourself lying on the sidewalk in a very sorry state indeed. One nifty trick is to send Yamoto in first to distract the opposition, leaving you plenty of time to close in for the kill.

However, in between jumping and kicking, do not forget about the time bombs. They are ticking away at all times and need to be defused before you can move on to the next level.

Keep your eyes peeled at all times for the offending articles and be sure to deal with them straight away, before they deal with you and your dog.

Again, Yamoto can come in handy to distract the enemy while you get on with the defusing job, but do it quickly, the bad guys aren't all stupid.

Pressing ENTER can activate some pretty impressive Ninja Magic, which acts like a smart bomb in destroying all of the enemy on-screen, but you'll have to use it sparingly if you don't want to run out in an awkward situation.

Use your wits and decide when best to use it in this pacy Ninja blast that's well worth shelling out your pennies for.

If you like your action hard and fast, Shadow Dancer won't disappoint. With some marvellous graphics and neat soundtrack, it's a real entertainer from the moment you switch on.

Jim Johnson

ROUND-UP			
NAME	Shadow Dancer		
FROM	US Gold	PRICE	Disc £14.99 Cassette £9.99
78%	80%	79%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT



Barbarian II

It was good on the disc and cassette, so how does it rate on the cartridge?

In a word: brilliant! If you've never had the pleasure of an encounter with Drax before, don't waste any more time. Go out and get this brilliant arcade adventure and start running him to ground right now.

At the end of the first Barbarian outing, the warriors of Drax were ousted by our hero and the Princess Mariana was freed from Drax's evil spell. However, the bad guy himself managed to do a disappearing act into his dungeons.

As a result, you must choose to play as either Barbarian or Mariana and go get him. Set over four breathtaking levels, the first three maze-like scenarios must be played in order, before you can confront Drax in person.

Starting off with five lives, the beasts form a formidable army for the novice, so make sure you collect any life giving skulls you find along the way. These are the remains of the warriors who went before you. Be warned!

If you happen to find the exit to a level before you have collected all of the available magical objects, a warning light will flash. At this point, the best thing to do is to get a pencil and make a note of where the exit is, before heading back into hot water to get your wares.

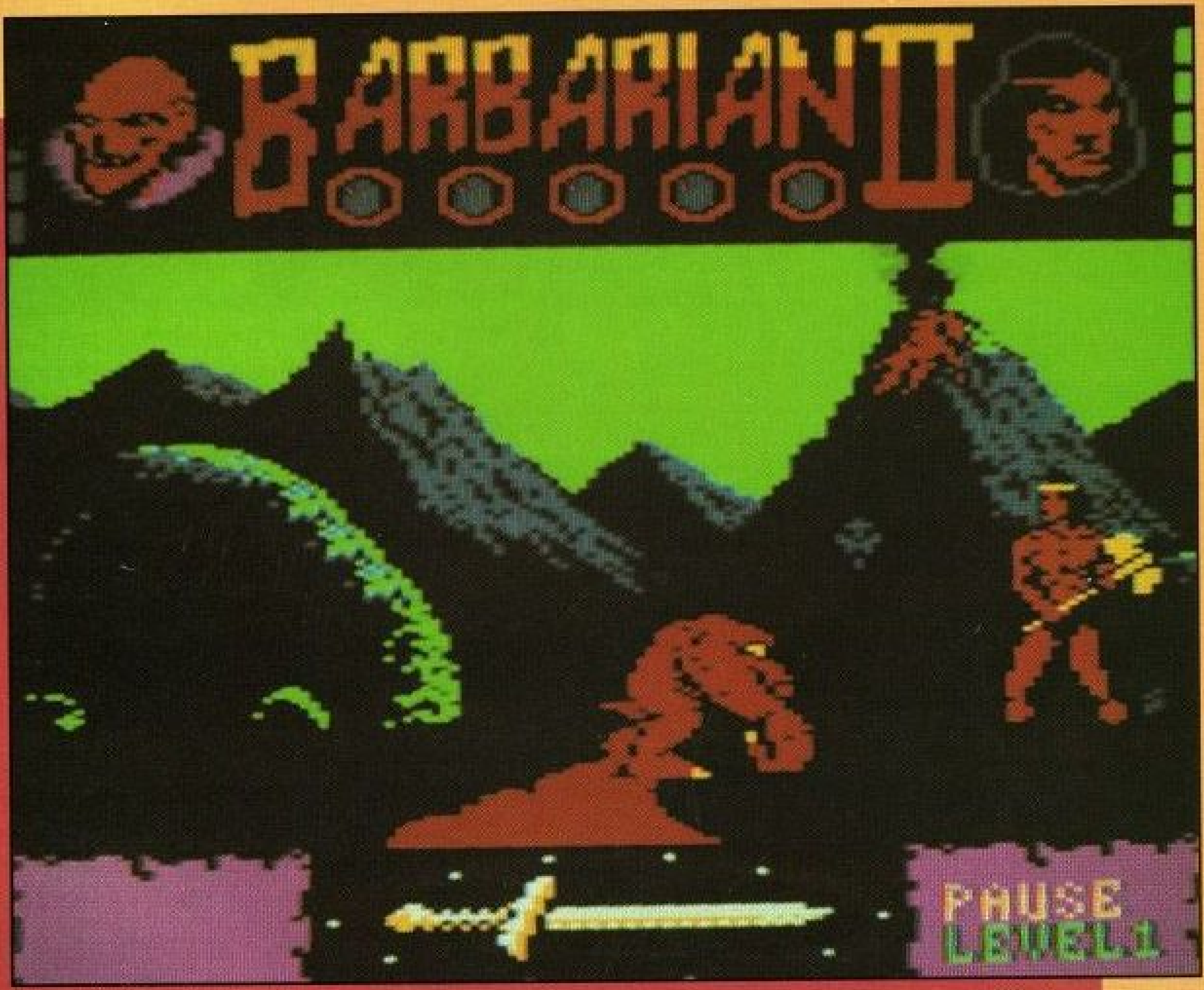
Having survived the first three deadly levels, your next adversary is the dreaded Living Idol, a Giant Demon. Survive that and it's on to Drax himself. It's all up to you. Good luck.

Barbarian II is a stunning example of an arcade adventure, featuring some superb backdrops and atmospheric sound effects.

Some of the monsters are truly hair-raising and, although many of them can be dealt with by one swift chop, try experimenting with the more complicated combat moves, as these will earn you valuable bonus points.

If you do happen to win through as either Barbarian or Mariana, try it with the other character and see how well you do in this excellent offering. Jam-packed with variety, Barbarian II will have you on the edge of your seats at all times. Go to it, Barbie!

Jim Johnson

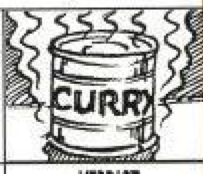


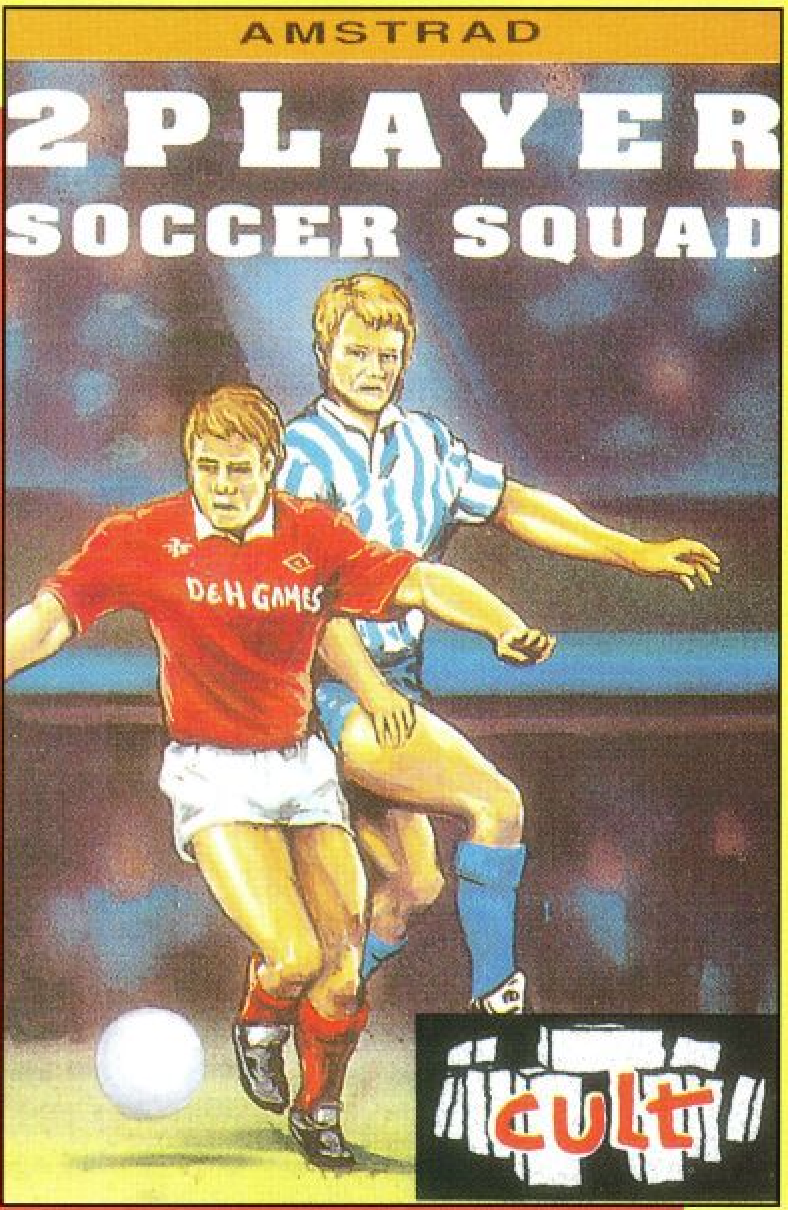
The three levels consist of the Wasteland, the Caverns and the Dungeons, each containing around 28 confusing screens. Keep your eye firmly on the compass at the bottom of the screen, or you could find yourself wandering around in circles for some time.

On each level, there are six underworld beasts to see off, and two magical items that need to be collected if you want to stand any chance of doing away with Drax at the end.

So, make sure you've mastered the complex fighting manoeuvres and be prepared to meet up with the likes of the Saurian Beasts, the Giant Grubs and the Slithering things on your quest.

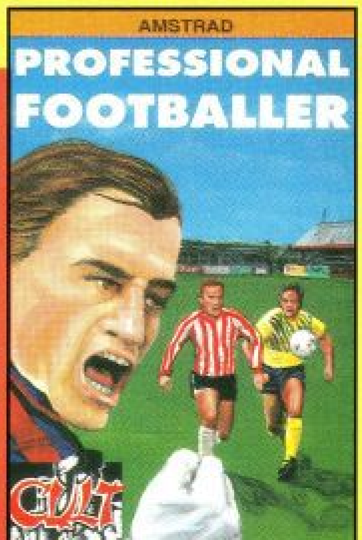
ROUND-UP

NAME	Barbarian II		
FROM	Ocean	PRICE	Cartridge £24.99
88%	89%	92%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT



CULT FOOTIE

As the action hots up for the new season, why not get in a little practice on the small screen first?

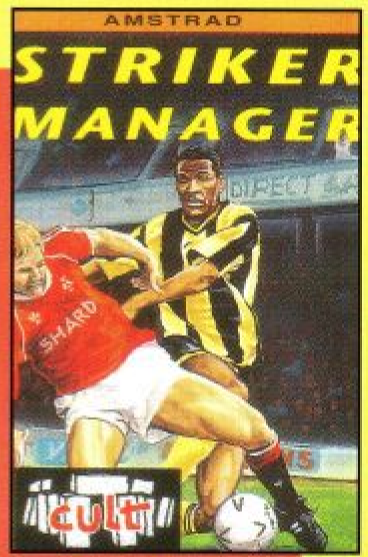


The Cult label has, for a long time now, been renowned for its excellent football strategy games, amongst other sporting offerings. If you happened to get hold of a little number called Striker, early last year, then you'll known what I mean.

Following on from the success of Striker, one of Cult's latest trio of strategy blasts is Striker Manager. What is it about? It's all about being a player manager in a struggling 4th Division club.

The manager has just been sacked and you must fill his shoes, battling to take your team to the top of the League, into Europe and on to an FA Cup win.

Slim chances? Well, don't forget that while you are managing away, you also get the chance to take to the field and stick away a few goals yourself.



Just like Striker, Striker Manager is totally addictive as you wheeler-deal your way through the transfer lists, buying and selling to get just the right balance in your team.

Utilising some very smart graphics basically, if you liked Striker, then this one's for you. Even if you didn't. Striker Manager is definitely worth a try.

Going one step further from Striker, Professional Footballer gives you a slice of the real on-pitch action. Choosing to be either an attacker, midfielder or defender, your chances of getting a game rest solely on the whim of the manager.

Getting out for a spot of hard training will earn you brownie pooints but, at the same time, you will have to perform well at all times to ensure your place in the team.

With the chance to fight for a place in the National team, FA Cup medals, European Cup medals and a whole host of other goodies, Professional Footballer is nailbiting stuff, right up to the moment when you know you are in the team.

Keep your skills up, stay in the 'consistency' band and you're in with a chance.

The last of Cult's latest offerings is an excellent two player blast, enabling you and a friend to take on the management of two clubs in a futuristic Superleague.

Following the complex transfer and selling rules, you must battle your way to the top of the League and fight it out for the £30,000 prize money for the cups.

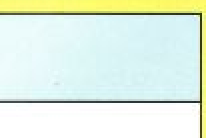
Big money and much needed for the buying of new talent.

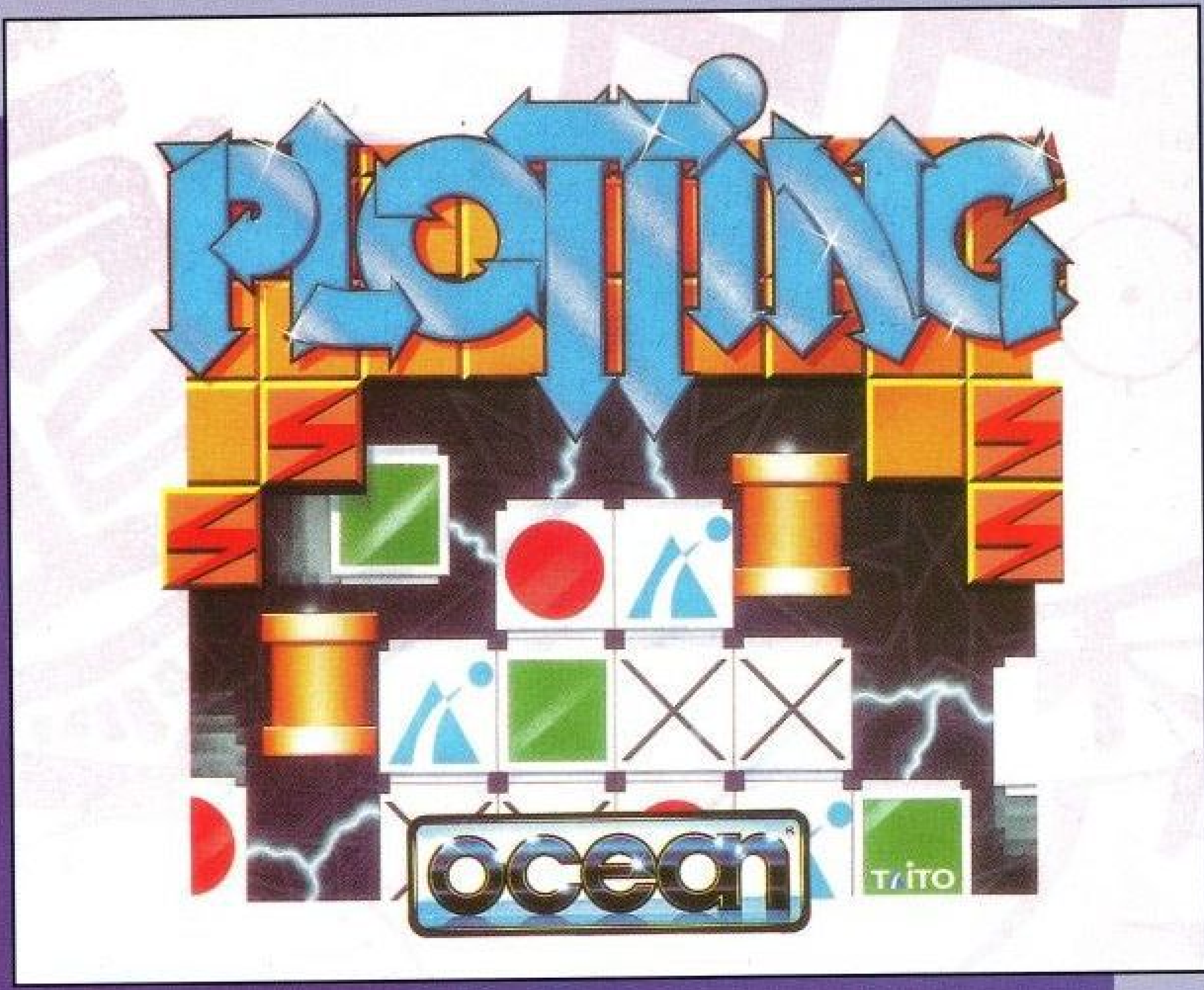
Two player Soccer Squad, in the true tradition of two player games, is guaranteed to cause some needle, which will add to the already superb atmosphere of this strategy blast.

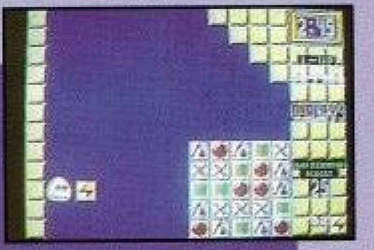
If you like football strategy, then any one of the above games should form a part of your collection now. Very different, but equally addictive, they are excellent examples of the Cult strategy skill. Try them out for size.

Jim Johnson

ROUND-UP

NAME	Football Strategy Games		
FROM	Cult	PRICE	Cassettes £2.99 each
84%	78%	88%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT





PLOTTING

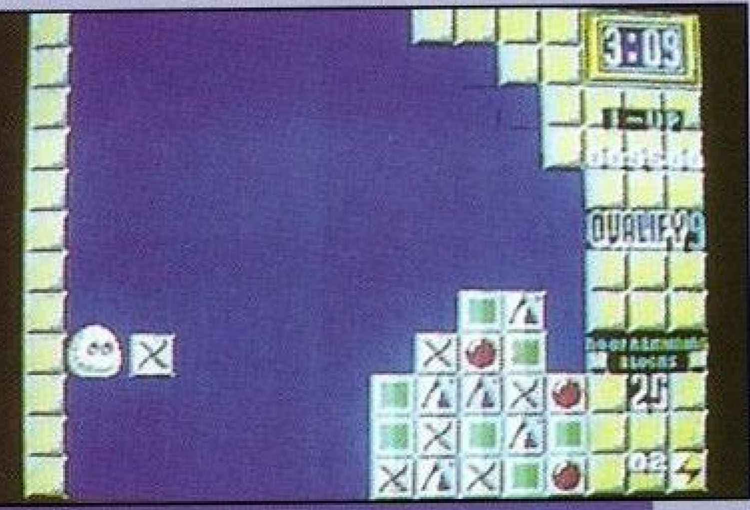
Are simple games really that addictive? You bet. Try this one for size.

Switching on this superb cartridge offering, it all starts off so very easily. The aim of the game is very, very simple; all you have to do is throw blocks to eliminate blocks of the same colour against the wall and reduce the number of total blocks on-screen to less than a pre-set target number within the time limit.

What could be simpler than that? Ok, you obviously haven't played Plotting yet. Deviously simple, yet brain-numbingly frustrating, this little beauty will have you pulling your hair out by the roots before you've got past the third stage.

To eliminate a block, you can either hit it directly from the side, or use the roof to bounce your own block down onto the desired target.

Once the block has been knocked out, the one directly behind it will be thrown out for your next move. The idea being, that you must plot your next moves very, very carefully indeed. Otherwise you'll be left with a block that you can't do anything with.



Do this, or miss a block and you'll lose a precious life, something you can ill-afford to do on the early levels.

Keep your eyes peeled for the Zapper blocks, which enable you to destroy any type of block, allowing you to pick the best route to the target figure and gaining a valuable extra life in the process.

To start off with, the set target is nine blocks remaining but, as you progress, this target will drop, making life even harder against the clock.

That, basically, is that. Sounds amazingly simple, but Plotting really is one of those games that you have to play for yourselves to find out just how devious it really is.

Positioning blocks of the same colour in a row and eliminating them together will earn you extra points and, if you manage to get well under the pre-set target, there are plenty of bonus points to pick up there as well.

Making a mental note of block formations is very advisable, enabling you to pick up every spare point available to get to the high scores.

As a one player game, Plotting is a masterpiece but, as a two player game it really is a winner. The action is fast and furious and you'll end up hating your opponent very, very soon.

Using some excellent graphics and a nicely melodic soundtrack, Plotting is a masterfully put together package that is guaranteed to entertain for a long, long time.

John Taylor

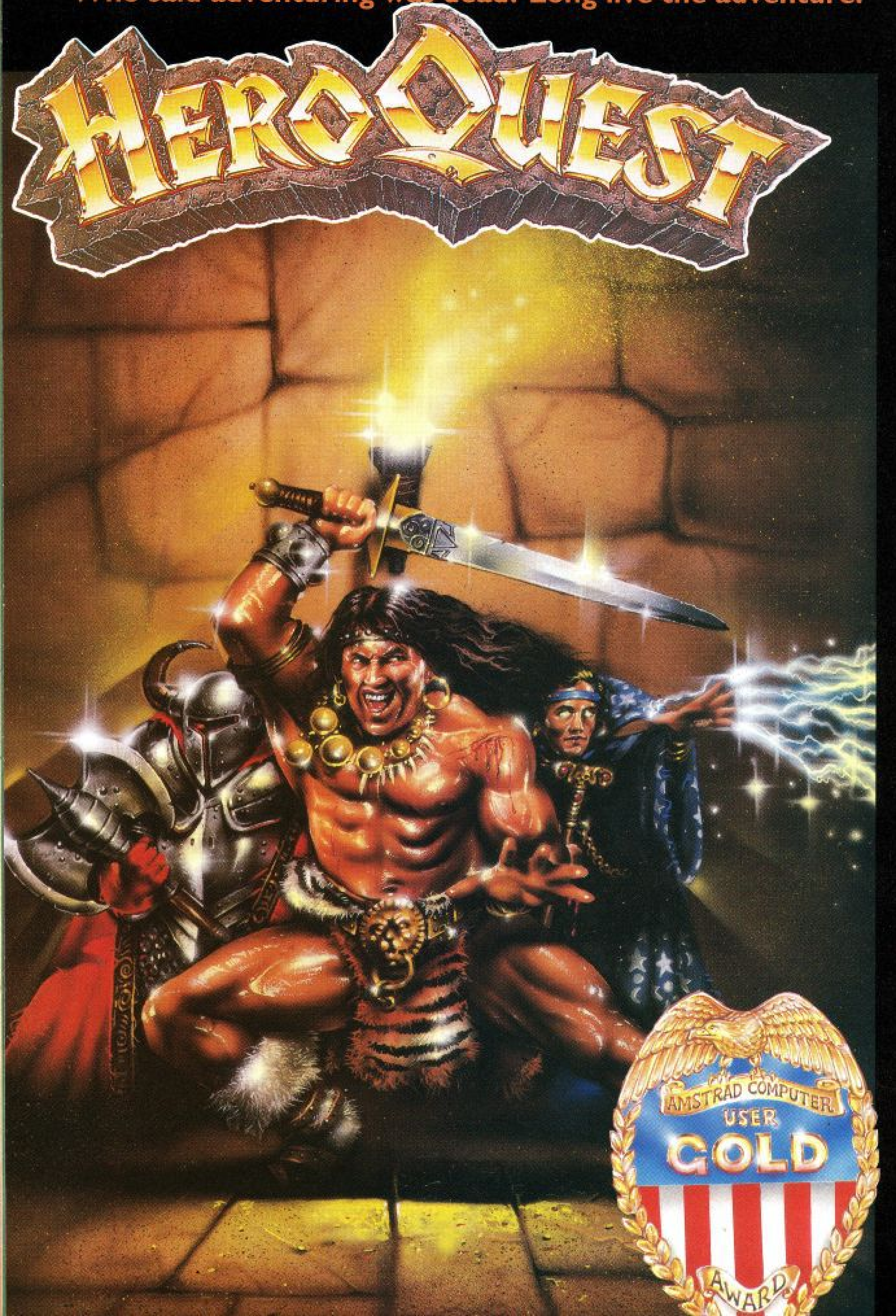
ROUND-UP			
NAME	Plotting		
FROM	Ocean	PRICE	Cartridge £24.99
92%	89%	92%	TNT
GRAFFIX	SONIX	PLAYABILITY	VERDICT

There are bound to be eople out there who don't consider an adventure to be an adventure if it's got graphics. There are also bound to be people out there who don't consider Hero Quest to be a real role playing game because you don't have to sit for interminable hours working out the rules and bribingb a friend to spend the same amount of time creating a dungeon and peopling it with weird and wonderful creatures from the Bestiary.

Be that as it may, there are more than a few people who, having finally given in to a go on the board game, have had to admit that Hero Quest is an excellent alternative to the original D&D adventures.

On top of that, give a text-only adventurer a few hours on a text and graphics adventure and, despite the grumblings, you'll be hard put to drag them away from it once the loading screen has disappeared.

Who said adventuring was dead? Long live the adventure!



So where is all this rambling leading to? A full-graphics adventure, based upon the Hero Quest adventure from Gremlin: conclusive evidence that the adventure game is far from dead. In fact, even a quick dablle with the joystick controls should be enough to convince the die-hards that the full-rpice adventure game on the CPC is back with a vengeance.

Hero quest on the computer really is that good and, if you don't believe me, try it for yourselves. I guarantee you'll be hooked from the very beginning.

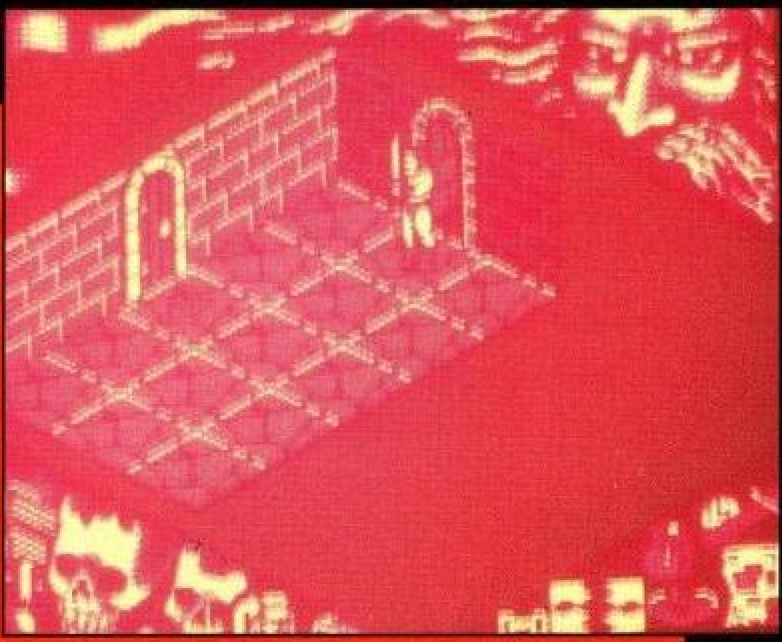
The story goes something like this: In the beginning, the fell legions of Morcar, Lord of Chaos, swept all goodness from the lands before the dreaded Black Banner.

Then came Rogar the Barbrian, a mightly warrior from the Borderlands, wearing the glittering Star of the West on his brow. Hope returned and he was joined by other heroes; Durgin the dwarf, Ladrin the elven warrior and Telor the wizard; in his quest to destroy the dark legions of Morcar.

Finally the day arrived, and Morcar's troops were destroyed at last. However, the evil lord himself escaped beyond the Sea of Claws with his general, where he plots his revenge to this day.

This is where you come in, vowing to seek out Morcar and his general over 14 breathless adventures, fighting for the triumph of good over evil. Dare you attempt the struggle? Definitely. If you don't, you don't know what you're missing out on.

Starting off, you get the chance to play with the four default characters of Warrior, Dwarf, Elf and Wizard. However, you can change all of the characters' names for yourself and your friends and even choose which magical



powers the Elf and Wizard should start off with. The best way to get yourself going is to tackle the first adventure, The Maze, which forms a final test before you go on to the real quests.

Basically, all you need to do is find your way out, the first to do so being rewarded with 100 gold coins.

Viewing the screen, the playing arena is placed centrally, with the various option icons being displayed at the bottom of the screen. Each player takes it in turn to move, using the very handy dice rolling routine. Simply press fire to stop the dice and use the arrowhead cursor to point your character in the direction of your choice.

Your character's vital statistics of body points and mind points are displayed, along with your wealth, in the top lefthand corner, so it is easy to discern who's roll it is.

In fact, the movements are incredibly easy to pick up, as are the combat routines. Entering a room can be achieved by pressing on the key icon, or by simply positioning the cursor on the door.

If a monster happens to be in the room, approach it and enter combat mode by pressing on the weapon icon. This will then show you a map of the dungeon, allowing you to aim your stroke at the intended victim.

Many of the early monsters are easily killed but, if your attack failed, be prepared for an assault when Morcar gets his turn to move.

As the Elf or Wizard, you get the chance to use some magical skills to dispose of the enemy, or to send them to sleep while you do a spot of plundering, which can be very handy indeed.

At all times throughout the quest, use the search icon to check for hidden doors, traps and treasure. This can reveal some very useful information. However, remember that you can only use on e icon feature per round, so save your treasure hunting for later if there's an Orc standing in front of you!

The excellent map icon allows you to keep a check on your location at all times, which will save on pencil lead, and help you to remember the quickest route to the exit.

Once you've mastered the maze level, you get the chance to spend your hard earned cash in the equipment room, stocking up on your character's strengths for later quests.

If any character happened to be killed, don't worry. These things happen and, you can always create a new one for a new adventure.

Using the excellent save/load routine in the character section will enable you to keep a much loved character for use whenever you like, whilst using expendable ones if you are in a mercenary frame of mind.

Spells can also be procured from the Book of Speels to keep the elf and wizard up to scratch for the more hazardous missions, so keep collecting the loot for more firepower.

Once the maze has been completed, you can move on to the higher quests, such as saving Sir Ragnar from Ulag, the Orc Warlord, or bringing back the three stolen chests of gold from Gulthor, the Chaos Warrior.

The variety of the quests is truly astounding and, when each is accomplished, more booty can be obtained to add to your armoury.

Playing on your own, controlling all or as many of the characters as you like, or with friends, the choice to stick together or hunt alone is entirely yours, though travelling in pairs at least is advisable when the bigger adversaries start coming into play.

Having a magic user and a non-magic user is handy when you come under fire, allowing for an effective defence at all times.

Hero Quest is an adventure of outstanding proportions, providing a real challenge for beginners and experts alike. The options are superb and the gameplay is totally addictive at all times.

Adventure lovers should welcome this with open arms, whilst those of you who have never dabbled in the art should get out and try it straight away.

Just remember, dungeons are full of traps and pits, and secret doors don't just jump out in front of you. Keep searching at all times and all will be revealed.

With the promise of additional data disks in the future, bringing even more Hero Quest adventures into the arena, this is one full price offering worth at least twice its weight in gold.

In true dungeon form, the graphics are gloomy and atmospheric, but clear enough to let you know exactly what is going on around you, allowing for excellent gameplay, interrupted only by your deliberations of what to do next.

The choices are entirely yours. Whatever you decide to do, Morcar is waiting, the dungeon door is beckoning and the adventure is only just beginning. Lead on and may the Force of Goodness be with you at all times.

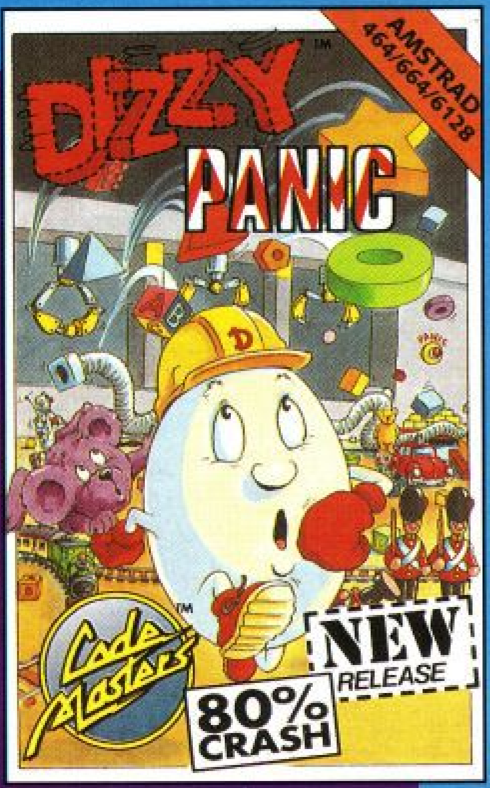
John Taylor



	ROUND-UP		
NAME	Hero Quest		
FROM	Gremlin	PRICE	Disc £14.99 Cassette £9.99
87%	86%	98%	
GRAFFIX	SONIX	PLAYABILITY	VERDICT

Budget Basement

Yet again the pocket money power gets a boost with some fabulous new offerings on the cheap side.



DIZZY PANIC

Yes, our egg-shaped hero is up to his old tricks again, in the latest Dizzy epic from Code Masters.

This time, Dizzy's in a tizzy about Grand Dizzy's latest invention, the toy making machine. Due to a slight miscalculation, the machine has gone haywire. Well, what did you expect from a Grand Dizzy invention?

Despite the attention of Dizzy and all his friends, the machine just keeps on getting faster and faster and, it's up to Dizzy to stop the machine from going over the top and doing itself a terminal mischief.

So, what do you have to do? Help Dizzy out with some magic shapes which are being churned out of the chutes at the top of the machine.

Utilising that age old adage that simplest is best, Dizzy Panic is easy to start, a horror to finish and totally addictive all the way through.

As the shapes emerge from the chutes, Dizzy's job is to line them up with the matching slots in the shapeguard at the bottom of the screen.

The more shapes Dizzy can put though, the higher up the chutes will stay. However, if the wrong shape reaches the bottom, the chutes start descending, getting you into a right panic if you're not careful.

Miss too many and the chutes will reach the floor. Kaput! It's all over.

Got the picture? Fantastic graphics, groovy sound effects and another guaranteed winner from the Olicer Twins stable. Be there or be a magic shape of the four-sided variety!

INTER CHANGE

An inspector's life is never dull, and Inspector Hecti's is no exception to the rule. As the world's first computerised detective, Hecti has been called in to the Interchange, where Victor Virus and his gang of unscrupulous bugs have invaded.

As Inspector Hecti, your task is to get in there and free a staggering fifty areas within the Interchange of Victor's thugs.

At the same time, you must also realign all of the junction blocks in each area, enabling this highly sensitive area to become fully operational again.

To help you in your quest, various weapons are available to you, though they don't last forever and need to be used with care.

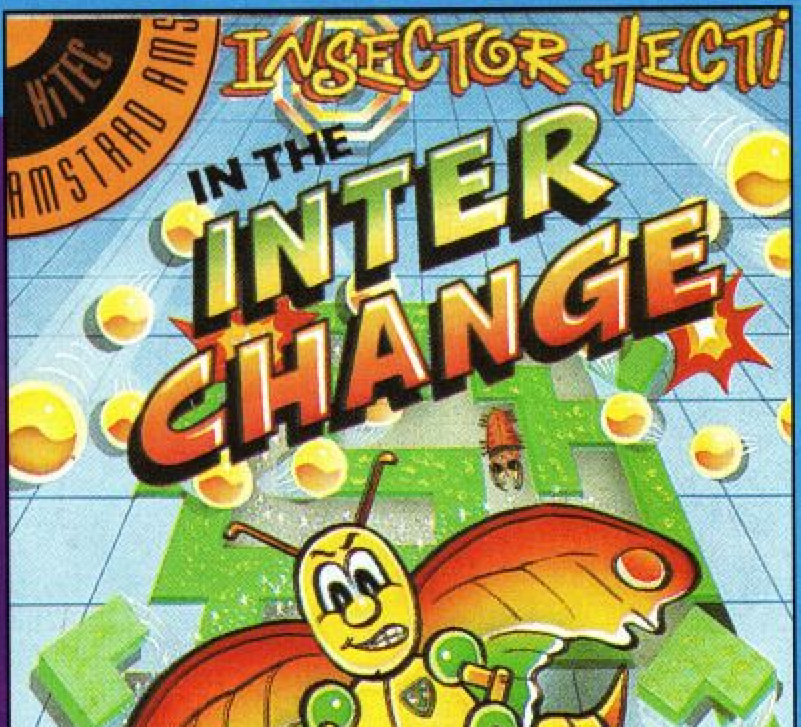
The most important weapon is the Ball, which will destroy all bugs within a limited range. You can only use one at a time, but further supplies are teleported in to you from time to time, so look out for the cavalry!

Collecting the Imploder will enable you to destroy all bugs on one Interchange, whilst the Shield will allow you to do away with bugs simply by walking into them.

The Speed up gives you an extra boost, while the Stasis freezes all bugs on an interchange, allowing you to pick them off as you go.

At all times in this fast and furious blast, you must watch the movement of the bugs carefully and avoid falling out of the area at all costs. It could spell your doom.

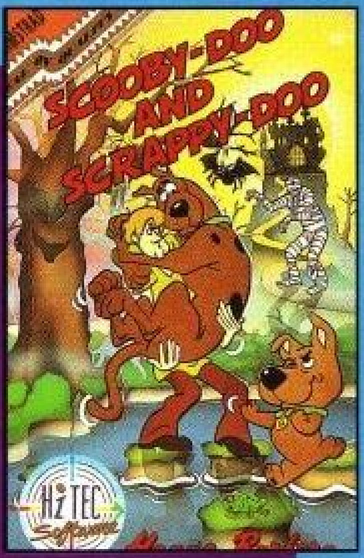
Inter Change is an excellent budget offering with plenty to see and do. Make notes of the passwords every fifth level to allow you to rejoin the game at higher levels, should you fail, then battle it out against the clock in this superb shoot-em-up with a difference.



SCOOBY-DOO AND SCRAPPY-DOO

Our fearless canine adventurers are back in the fray again, though this time it's Scrappy who has to do most of the hard work.

Taken by the urge to find food, Scooby has wandered off, with Shaggy close behind. When the rest of the gang becomes concerned,



Scrappy volunteers to go hunting for the hungry duo.

The search takes Scrappy through four very different levels, and encounters with all types of nasties. Getting to grips with the Ghost Town, Graveyard, Mansion and Dungeons, there are a whole host of features for Scrappy to contend with, including secret doors, spring boards, hover boards and, of course, special Scooby Snacks.

Collecting 15 Scooby Snacks will get you a much needed extra life, while picking up the apples and burgers will get you valuable points as the quest continues.

Featuring some excellent graphics and superb sound effects, this is one blast well worth getting hold of. There's plenty of pacy action as Scrappy comes face to face with the baddies and one or two laughs to keep a smile on your face as you proceed. Try it, you won't be disappointed.

QUATTRO RACERS

Get set for more race action than you can handle as two wheelers, four wheelers and watersports get the Code Masters Quattro treatment.

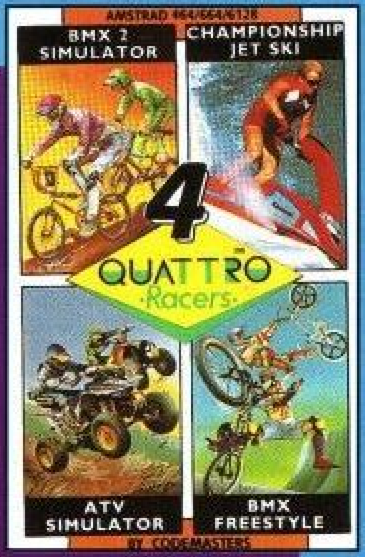
BMXing gets the full treatment with two exceptional and very different outings on this cassette. The first, BMX2, is an excellent simulator that'll have you racing against the clock and other competitors in a real rough and tumble outing in the mud, whilst BMX Freestyle takes you into the world of ramp jumps, wheelies, half-pipe tricks, jumps and competitions.

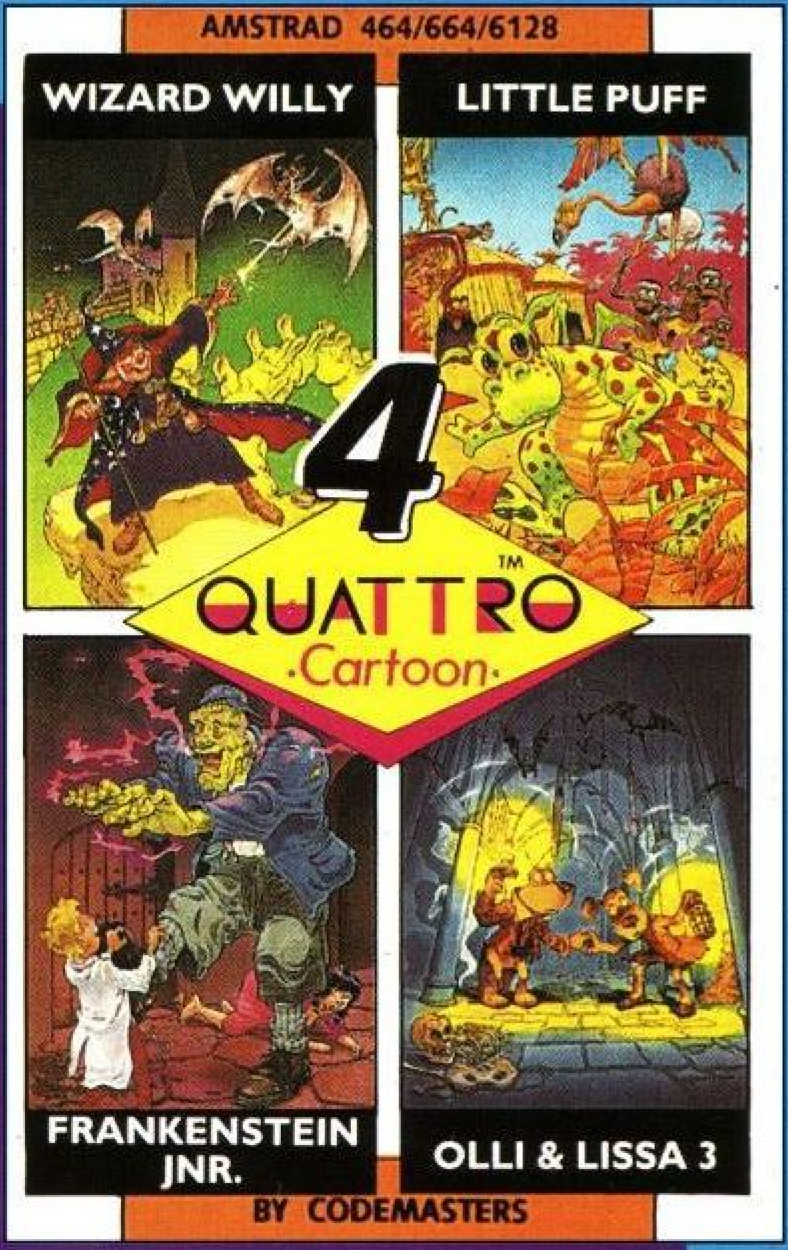
Both games are a joy to play and with such features as slo-mo replay and the chance to customise your own bike, should not be missed.

ATV Simulator takes you into the world of four wheeled dirt tracking, with sand and snow options for that extra variety in a series of races that'll have you on the edge of your seat at all times.

Finishing off this excellent compilation, Championship Jet Ski will see you weaving around islands and bridges, leaping over jumps and making your way to the top of the ranks. Look out for the deadly weed and take it easy in the docks, or you could become parted from your trusty steed.

All in all, four totally addictive race games, all completely individual and each featuring fast and furious action at its best. Get it now!





QUATTRO CARTOON

Here we go again with another fabulous collection of Code Masters goodies, this time of the animated variety as the cartoon classics get a look in.

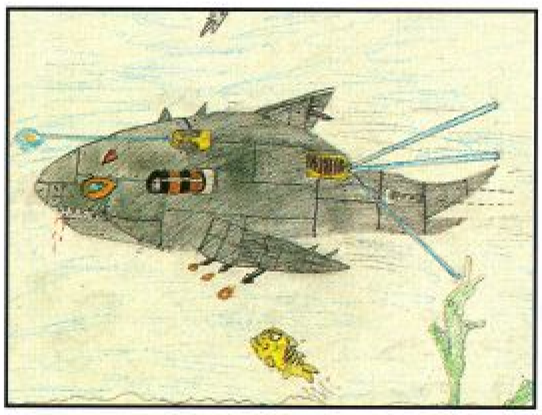
Wizard Willy kicks off the collection; an excellent adventure in the world of magic as Willy seeks out the winking eyes of power. Take on trolls, fairies and guardian skulls in this weird and wonderful quest into enchanted forests, dungeons and fortresses. If you haven't played it already, be sure you get it this time around.

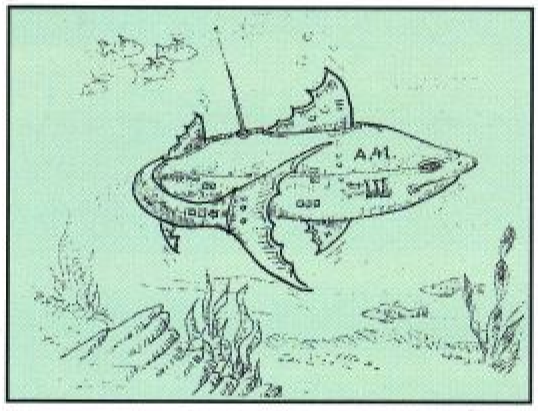
Next up is Frankenstein Junior, as you desperately attempt to find all of the missing parts of your dead dad's body and bring him back to life. There are plenty of pitfalls to overcome and, be sure to watch your heartrate as the spooks start appearing. Being frightened to death certainly won't help your father.

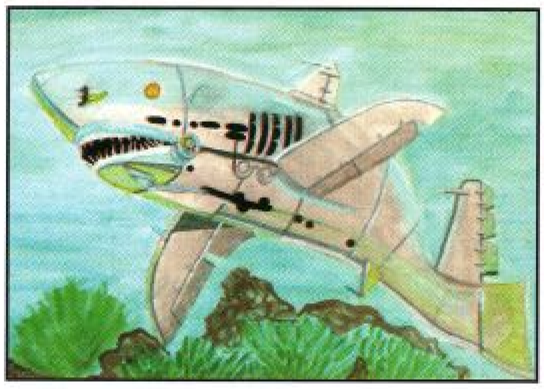
Ollie and Lissa 3 sees you chasing around a haunted house in search of car parts to make good your escape. Climb ladders, skirt along ledges and be sure to take each part down to the basement, where you can build all of the pieces together, in this excellent cartoon adventure. Last, but by no means least, is the epic Little Puff. Poor Puff is trapped outside Dragon Land and needs to find all four pieces of the pass to get him back to his beloved homeland. There are plenty of baddies out there to frighten Puff, and plenty of goodies to be picked up to help you on your quest. When you've collected the pieces, be sure to present them to the Toll Collector, to allow you to the safety of your home.

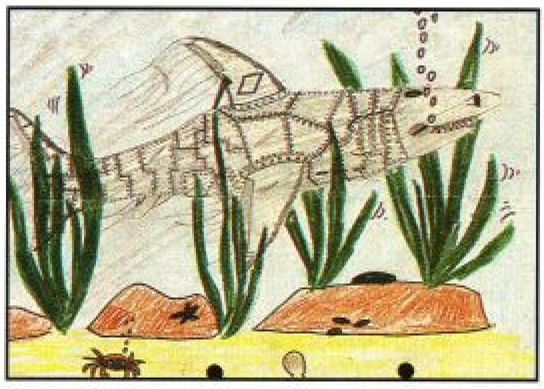
All four of these offerings feature the excellent style of Code Masters' games. Each are best sellers in their own right and, together, are a must for lovers of fun and adventure everywhere.

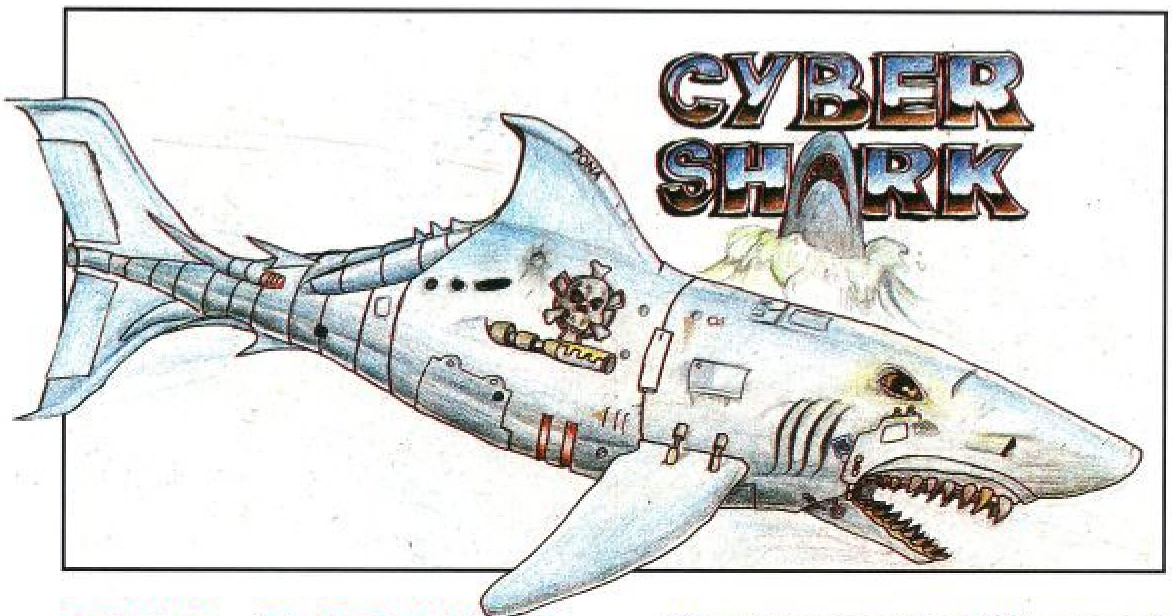
Dizzy Panic	Code Masters	£2.99	96%
Interchange	Hi-Tec	£2.99	94%
Scooby Doo and Scrappy Doo	Hi-Tec	£2.99	88%
Quattro Racers	Code Masters	£2.99	84%
Quattro Cartoon	Code Masters	£2.99	95%













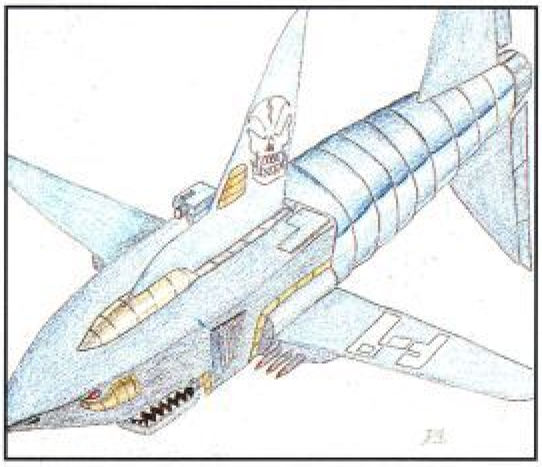
SHARKS AHOY!

Well, what can we say? You've certainly done yourselves proud this month. The quality of the entries to our Sharks competition was so high, that we had to get a special panel of judges in to make the final decision.

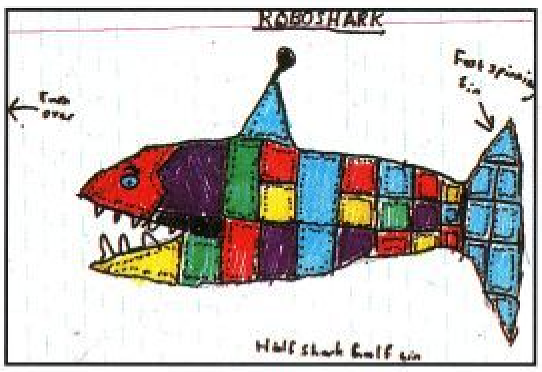
This they did, so take a peek through the following list of names and see if you are one of the lucky ten who are going to get a fabulous, giant inflatable shark through the post very soon.

The winners are: Paul Waterman of Eastbourne; Gavin Daffern of Nuneaton; Cameron Mullay of Quarff, Shetland; Sue Greenup of Beckenham; Daniel Kilpatrick of Chelmsford; Richard Stevenson of Enniskillen, N.Ireland; Andrew and Clare McCaffrey of Cheltenham; Ka Mang Liu of Doncaster; Jonathan Ryans of Doncaster, and Steve Begg of Maidenhead.

Well done you lot. A quick glance at some of the winning entries will give an indication of the quality of the drawings and, for those of you who missed out this time, why not try this month's epic quiz and see how you fare. Thanks again for your brilliant entries and keep up the good work.







SPOT THE DIFFERENCE WITH

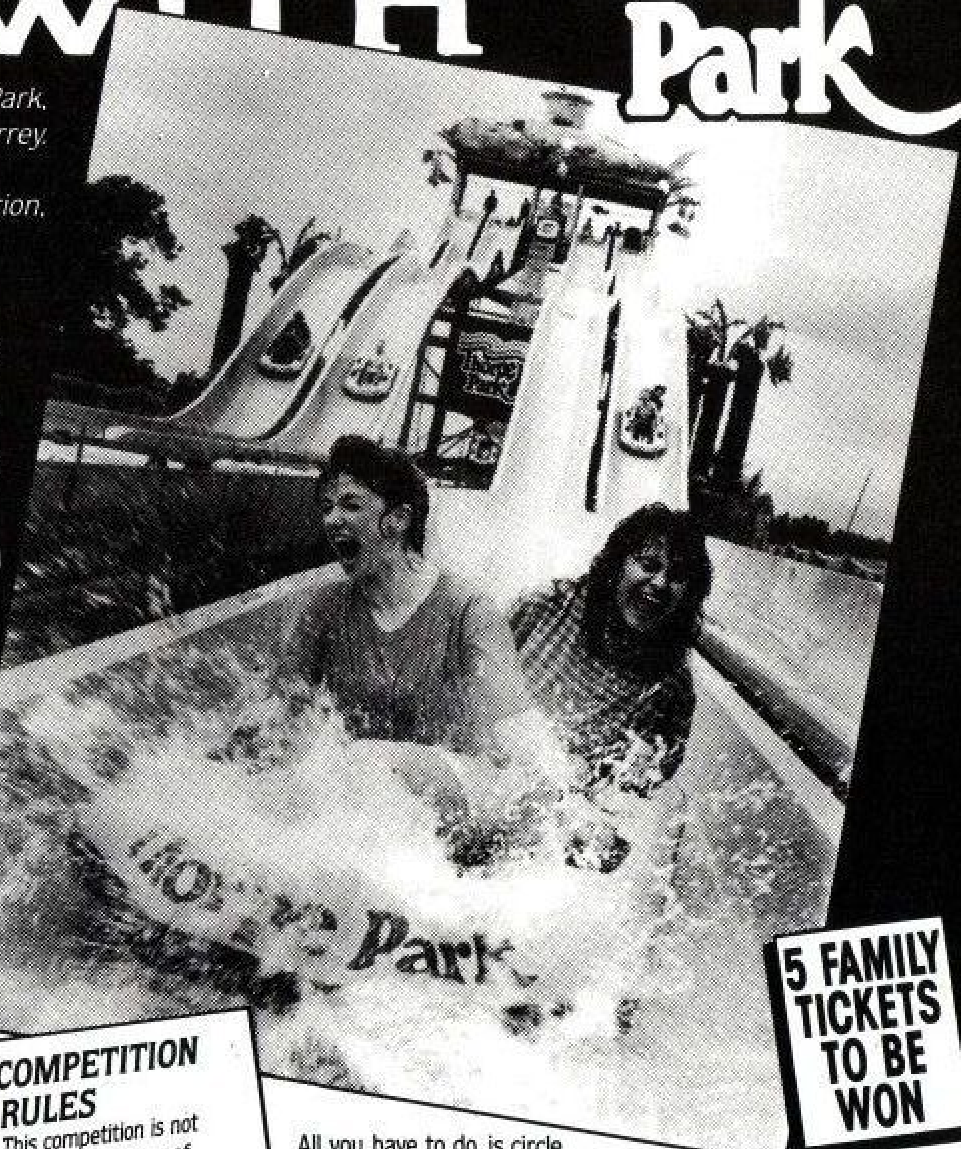
A FORTNIGHT'S FUN IN ONE Thorpe Park

Here's your chance to win a fabulous day out at Thorpe Park, one of Europe's leading leisure attractions in Chertsey, Surrey. "Depth Charge" – Britain's first four channel water slide, part of the new multi million pound Fantasy Reef attraction, has just opened at Thorpe Park.

Hurtling down its' gigantic water chutes from over 40 feet up is not for the faint hearted!

A free family ticket for four persons will give you endless fun on Thorpe Park's 70 rides and attractions, which includes Loggers Leap, the highest log flume ride in the UK; Thunder River; the Flying Fish rollercoaster; Phantom Fantasia ghost trip; Tea Cup Ride and loads more. Plus on arrival, book your free trip on "SkyRide", a great way to go parascending without getting wet!

So hurry and enter to win a great day out!





5 FAMILY TICKETS TO BE WON

COMPETITION RULES

This competition is not open to employees of Thorpe Park, this newspaper or anyone else connected with the organisation of the competition. Judges' decision is final and no correspondence can be entered into. No cash alternative available. Winners will be notified by post.

All you have to do is circle at least 6 differences in the smaller picture, fill in the coupon and send your completed entry form to:

Michelle Fitzgerald, ACU/Thorpe Park, Panini House, 116-120 Goswell Road, London EC1.

Closing date of competition: **1st September 1991**

Name ______________________

Address ______________________

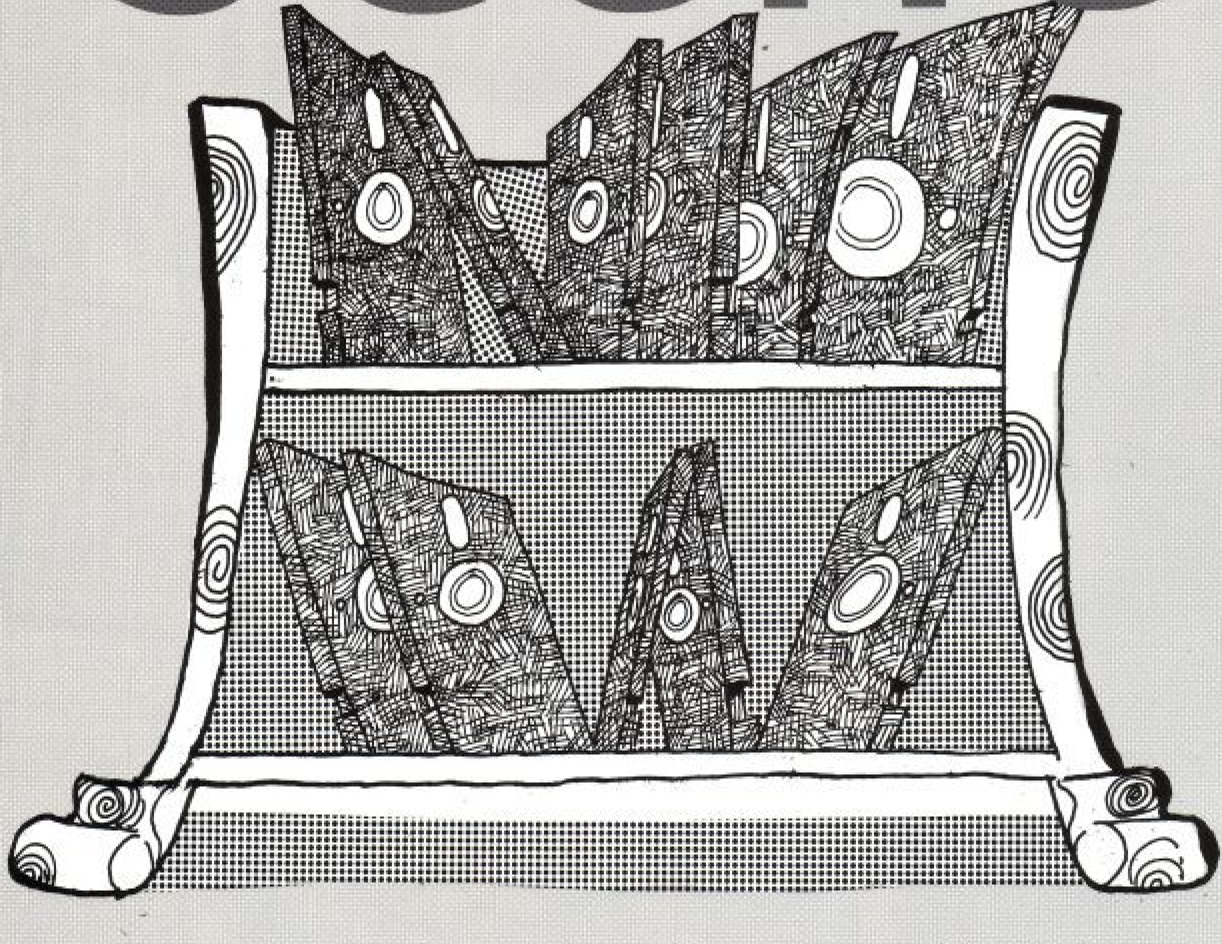
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______________________ Telephone ______________________

SPOT THE DIFFERENCE WITH

A FORTNIGHT'S FUN IN ONE Thorpe Park

PD Scene



There is good news and bad news. Mr Adams brings you both with his own inimitable style.

Do you ever get the feeling that sometimes people resent you trying to help them? The reason I ask this is because at the end of my article last month, I gave a list of all the CPC public domain libraries that I was aware of. On your behalf, I then wrote to most of them and invited them to send me a catalogue of their programs or even a disc or two to review for these pages. I then awaited a rush of jiffy bags cascading through my letter box as I thought that all those libraries would recognise a bit of free advertising when it was offered. Well, what I expected and what I got proved to be vastly different. It seems to me, that the average CPC PD library actually shuns publicity rather than craves it. This is in stark contrast to other computer formats.

There are a few notable exceptions thankfully and I will be concentrating on them in the future, but to begin with, I thought you might be interested in knowing about how you might be treated when you contact some of the other variety.

The first reply I received was from Richard Sergeant of the UNITED AMSTRAD USER GROUP. Richard began by informing me that he had stopped buying ACU in March of this year, which I thought got his letter off to a great start! He then went on to tell me that their library was only available to their members, that if I cared to send £3.50 he would send me a catalogue and finally he asked "Why not join the group yourself, Bob?" Well, I'd love to reply through these pages but as Richard will not be reading it, there doesn't seem much point. All I will say, is that if he'd taken the trouble to check his membership list, he would've discovered that I've been a member for the last four years! Still never mind, I was only trying to help but their address is now deleted from the list.

On to letter number two. This came from Rod Smith of the PUBLIC DOMAIN SOFTWARE LIBRARY Ltd. Rod's letter began "I'm not sure if Amstrad CU is for the PC or PCW." Sigh... is it really possible that there are still people out there who haven't yet discovered that this magazine exists? We've only been going for about seven years! However, at least Rod sent me a couple of catalogues – but they were for the IBM PC range!

Okay, that's enough moaning and I hope that the other PD libraries will send me a reply eventually. I'll keep you all informed.

Stand up and take a bow, David Wild of DW SOFTWARE, Richard Fairhurst of ROBOT PD, Tony Kingsmill of DATA PD Library and Debby Howard of ADVENTURE PD. Now these four obviously have yours and my best interests at heart, because they were only too willing to supply me with as much information as I needed.

DW SOFTWARE: David kindly responded with a nice letter, a full list of his programs and a disc of his samples. And what a disc it is. This is high quality programming and all done by Mr

Wild himself. He can currently supply two discs, jam packed with his own PD utilities and files and they are excitingly entitled, PD1 & PD2. Do not let the boring titles put you off however, because the utilities themselves are well worth having in your collection.

Disc One, contains one of the most interesting programs I've seen attempted on the CPC. "Easydos Desktop" is David's attempt to bring a ST (a computer manufactured by Atari apparently) user interface/desktop/workbench/windows, icons and pointer style of front end to the humble Amstrad – and it works. After loading (RUN "DESK") the pointer can be controlled by using either an AMX mouse (much quicker and easier to move around) or if you do not possess a plastic rodent, then you can use the cursor keys. If you have played around with a WIMP type environment before, then this version will be easy to understand but it shouldn't take the uninitiated too long to get going either.

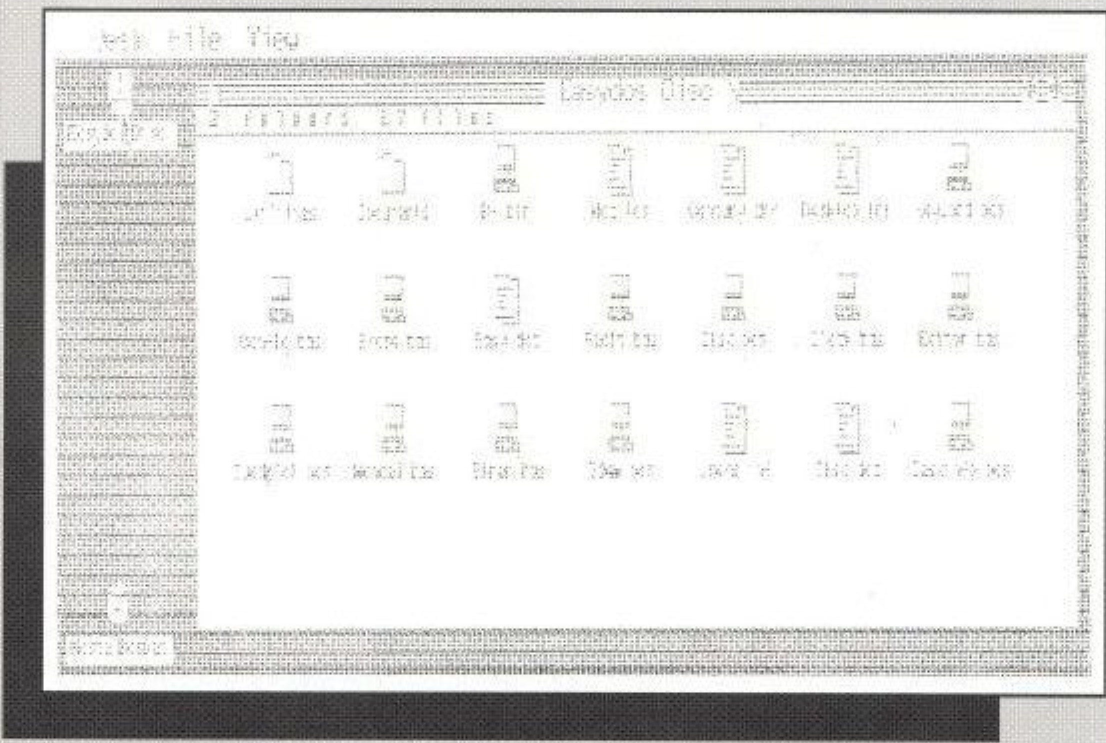
Let's assume that you have the desktop loaded on your screen. In the top left corner is an icon named "Floppy Disc A" and in the middle of the screen is a pointer, shaped like an arrow head. By using the UP and LEFT cursor keys, position the pointer over the disc icon. Now press the COPY key (mouse user's would click the left button,) the disc drive spins and you are then looking at a catalogue of the disc in drive A, as you've never seen it before. Instead of the usual two column list of files in alphabetical order, you can see three rows of icons.

Each icon represents a file or program and it also has its name printed underneath it, such as "Deskinfo.Bas" There are three types of icon – a picture of a computer for a system or executable file, a folder for folders and a piece of paper for text and other files. Now if we move the pointer over the "Deskinfo.bas" icon and then press the RETURN key (or double click the mouse) the screen will clear and then the selected program will run in the normal way.

It is a very clever program and I have only begun to scratch the surface of it here, so please read the Deskinfo file for further details of all the extra gadgets, windows and features. It also includes some very useful file utilities as well, some of which can be run from within Desktop or as "stand alone" programs without loading the desktop first. Erasing files and more importantly, Unerasing them again, Displaying text files, Changing paper and ink colours, Renaming, Information (including name folder, type, protection and start and length of the file) Creating new folders, Sorts (by either name or typ,) Copying, Moving and Formatting are just a few more of the things that are extremely simple to do.

Is that it? Far from it! Also included on the same disc are:-

BASIC+ – adds loads of new commands to BASIC.
QUADPLOT & MGP – flexible equation plotters.
KEYWORD – allows commands to be entered with one key-press.
CLOCK – an analogue clock.
MANDEL – a mandelbrot fractal generator.
SIREN – makes a siren sound.
EDITOR – a full disc editor.
PEDIT – a program procedure editor.
FANCYCLS – clears the screen graphically.



So how many million pounds does DW require before he will part with this masterpiece, I hear you cry? A mere sick squid I reply. Just send six pounds to DW Software (see address below) for one of the bargains of the decade and please mention ACU when you do so. I'm now going to take a peek at disc 2 and will reveal all to you shortly.

The following reduced list of libraries (reduced from last month because they either didn't reply or are unwilling or unable to supply CPC users) should from my experience, offer you excellent service and programs.

Adventure PD
10 Overton Road,
Abbey Wood,
London SE2 9SD

Data PD Library
202 Park Street Lane,
Park Street,
St Albans,
Herts AL2 2AQ

DW Software
62 Lascelles Avenue,
Withernsea,
North Humberside HU19 2EB

Robot PD Library
2 Trent Road,
Oakham,
Rutland LE15 6HF

Two additions to the above are:-
SIMON AVERY. Marden Farm, Old Exeter Road, Chudleigh, S. Devon,. TQ13 0UR. Simon can supply two of his PD adventures on your own disc for one pound. Titles available are DOOMLORDS Pts 1, 2 & 3. ROOG. WELLADAY. SPACED-OUT. CAN I CHEAT DEATH (16 plus). TIZPAN. BOREDOM (16 plus). ADULT 2(16 plus). DUNGEON. JASON & ARGONAUTS. FIRESTONE and on a one-sided disc (?) – ROUGE, MIDGET, HOOT & LABARINTH.

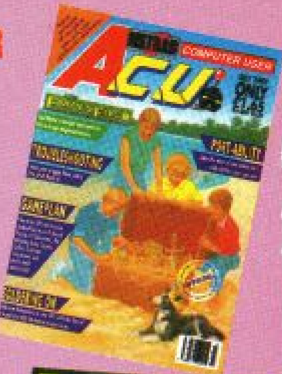
I have also been notified of a new library run by Adam Shade called DARTSMA PD. I have only received a list of 12 discs entitled DPD-1 to DPD-12 and priced at 50p each. As I do not have any idea of what is actually on them, I cannot comment any further. If you feel like taking a gamble on what you may receive, DARTSMA's abode is at 47 Kidd Place, Charlton, London, SE7 8HF.

Bye for now...

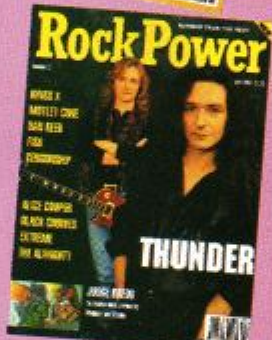
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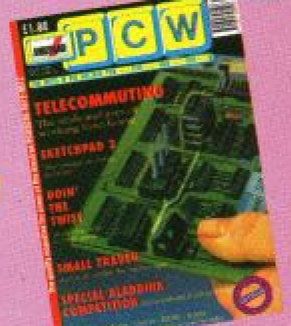
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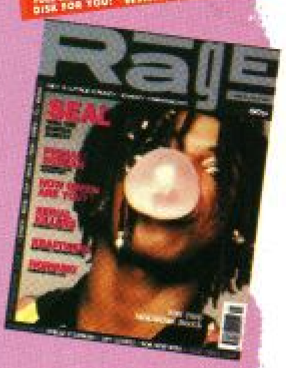
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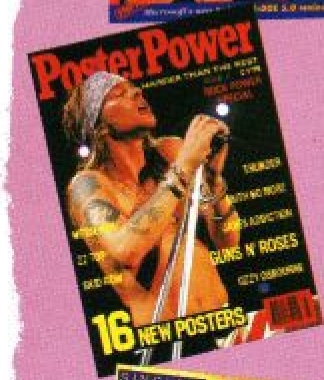
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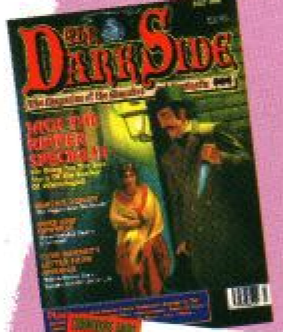
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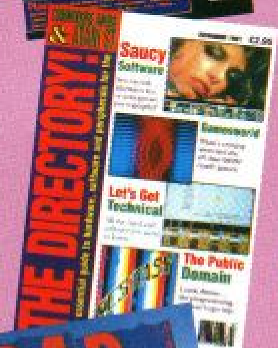
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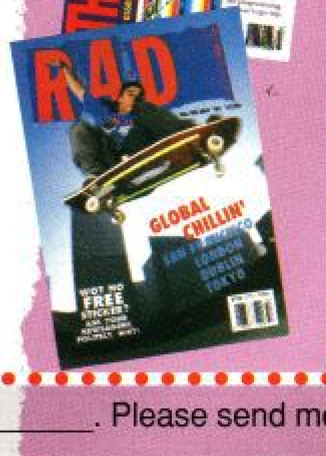
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FUN FOR THE SEVEN-UPS!

You pupils have never had it so good! Jim Johnson investigates the latest package from the Fun School stable.

Over the past few years, the quality and consistency of Database Educational Software's Fun School series has never failed to impress both teacher and parent alike.

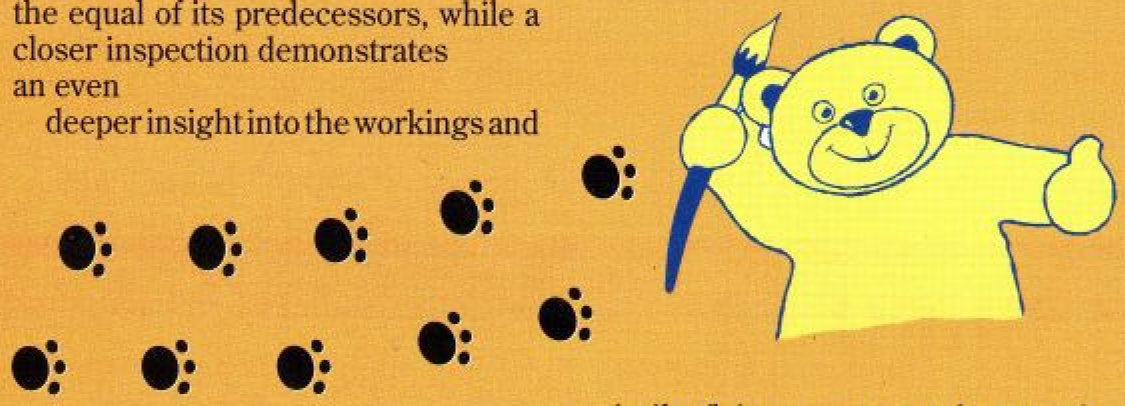
Always aware of the ever-changing styles of primary and infant school teaching, the Fun School series has distinguished itself as an instrument of both education and entertainment, cleverly utilising the guidelines laid down by the National Curriculum.

With well over 300,000 combined Fun School 2 and 3 sales and the "Best Home Educational Package" award from the recent ECTS show tucked firmly under its belt, the constant letters of acclaim received by Database confirm that the series is also a continuing success with the most important group of people as well: the end users, or the schoolchildren themselves.

So much for the success story, but what of the future? Well, taking into account the latest addition to the Fun School stable, it seems there is no time for taking it easy at Database and basking in the shadow of former glories.

On the contrary, at a first glance, Fun School 3 for the over 7s looks every bit the equal of its predecessors, while a closer inspection demonstrates an even deeper insight into the workings and capabilities of the young and inquisitive mind.

Within six superbly thought out programs, the package has been designed to initiate ideas, educate, entertain and inspire, each of which it achieves in style and, to coin a schoolboy phrase, with knobs on.



Four of the programs included in the package are educational games, intended to assist the youngster in distinct areas of learning, from mathematics to grammar, creating a good overall balance when used with initial adult supervision.

Anybody who remembers their schooldays will remember with loathing their first maths lessons. Usually associated with mindnumbing tedium and a terror of anything resembling a digit, mathematics becomes a friend indeed in Planetary Maths, a stellar shoot-'em-up with a very big difference.

Selecting difficulty levels for adding and subtraction, as well as division and multiplication, the game starts with a sum on the right hand side of the screen. Typing in the right answer will send a missile flying across to destroy the shield. Get the answer wrong and a warning noise is sounded. If you don't have time to type in the correct answer, the sum will smash into your own force shield, depleting your energy, while the correct answer is displayed.

With automatic level increases and a wide variety of mathematical posers, the program is designed to test novices and more advanced minds alike. Bonus points and time limits can be added to create a more competitive environment in an extra-terrestrial game that will make basic maths an absolute joy to learn.

With Treasure Search, the child must aid Cap'n Robbie in his quest for treasure. The aim of this program is to get the child used to distances and directions.

Hidden somewhere on the map background is the loot. By moving the cursor over prescribed distances and directions, clearly displayed on the screen, the child is encouraged at all times to reach the goal.

With varying options for the compass points, which can be replaced with angles of degree, the program provides an excellent insight into the world of orienteering, angles, distances and map reading.

Moving over to words and grammar, Word Search takes the form of the puzzles often found in comics and magazines, presenting the child with a grid of jumbled letters, in which are hidden a selection of commonly misspelt words.

Using easy-to-follow instructions, the varying difficulty levels again provide for all levels of ability, in what is an excellent word recognition puzzle which children will enjoy getting to grips with.

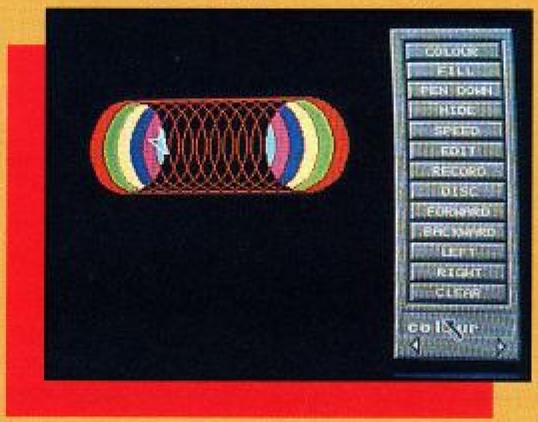
Sentences, the last of the 'games' programs, presents the child with a seemingly endless series of sentences, each containing random spelling, syntax and punctuation errors which need to be corrected before the thumbs up can be given by Cap'n Robbie.

As the mistakes are entirely random, some sentences may actually be correct, so the child must be on his/her toes at all times.

At all times on the games, mistakes are not criticised, rather encouragement is given to allow the child to try again. Clues can be accessed to help out at all levels and experimentation is welcomed, enabling the child to explore and investigate as much as possible.

Adding to the full complement of the Fun School packages are two programs which will prove to be an invaluable asset in the development of computer literacy.

The first is Robot Draw, which may appear on the surface to be just another drawing program. However, a closer inspection will reveal amazing atten-





tion to detail and an excellent inroad into the programming language, Logo.

Using an incredibly easy menu system, the child can not only learn to draw intricate designs and patterns, but also get to grips with the basics of computer programming.

Using a small turtle-shaped cursor, all of the options of basic Logo are available, using pens and different coloured inks. Paying particular attention to the manual, preferably under adult supervision to start with, the child can very soon master this very powerful picture creation program, using editing options to alter mistakes, load and save to move picture data and record to memorise complicated routines for repeating and combining of various designs for more complex patterns.

By entering directions, angles and

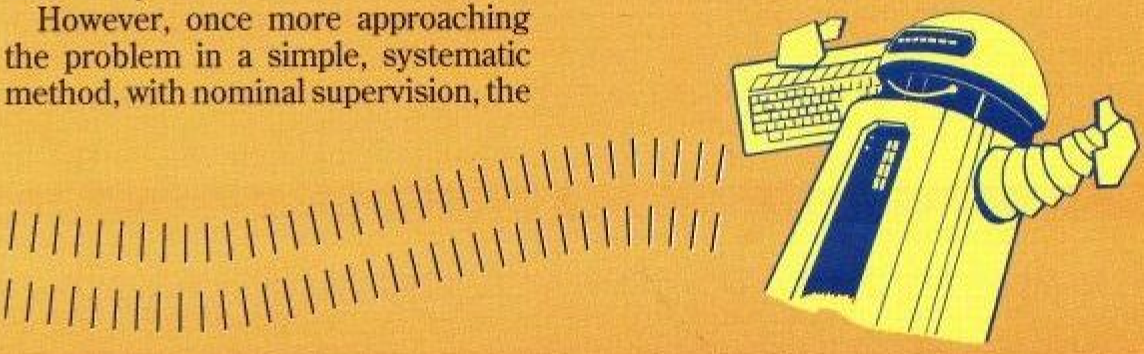


speeds on the menu, the program will soon become second nature to a developing mind, introducing the child to the world of macros, file saving and creration and editing of programs.

As stated, a good read through the manual is advised before ploughing into the program, and some extremely useful sample files are included in the package as examples of just what can be achieved using this incredibly versatile utility.

Last, but by no means least, is the superb Database program. Introducing the child to what must one of the most important functions of computers in the home or at work is a daunting task to say the least.

However, once more approaching the problem in a simple, systematic method, with nominal supervision, the

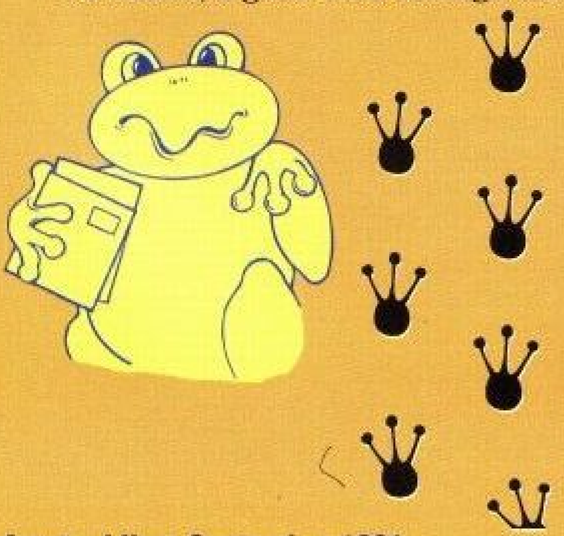




child can very quickly pick up the rudiments of the program which, in its entirety, is guaranteed to become an invaluable mindstretching tool.

Following simple on-screen instructions, sample files can be accessed to provide initial instruction in file creation, sorting, searching and editing. The wide variety of sample files included is intended to demonstrate the very importance of a database and should provide hours of entertainment as the child becomes adept at creating his/her own data files.

On top of that, the database program also includes a unique test feature, enabling the child to be quizzed on all manner or topics, be it the multiplication tables, or facts and figures.





Because of the way the program has been devised, it is incredibly simple to create new files for inclusion in the test routine.

For example, if a child has been given new words to learn, or some historical dates to read up on, the teacher can very easily incorporate a testing program on that very topic.

The top line of the database becomes the answer line, whilst the questions can be listed below in order. Simply by pressing the test option, the top line of answers will disappear, leaving the child to input the answer, before being told whether it was correct or incorrect.

The very diversity of the programs on the new Fun School package guarantee its success as an educational tool. To be fair, it would not be possible to do each program justice in just two pages.

Each program is fully adaptable to specific needs, with options to create new quizzes, tests and posers to stretch even the most inquisitive mind, whilst easily catering for the novice.

In its entirety, the program can cater for the bright under 7s on the easier levels, whilst the higher levels can even test 9 year olds.

If you really want to experience the brilliance of these unique programs, you will really have to try them for yourselves but, as an educational entertainment package, I cannot recommend Fun School 3 highly enough, nor, for that matter, any of the Fun School series, which have each become lessons in consistency and excellence themselves.

FAXBOX

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Game On (Part 2)

Invaluable advice straight from the horse's mouth, so to speak, as Phil Oliver, one half of the renowned Oliver Twins, says his piece along with some great news for potential creators.

So you'd like to become rich and famous from writing computer games?! Well it's possible, but like everything else in life you'll have to work for it! However, with a little expert guidance it can be made easier and that's exactly what I will attempt to give you in this article.

Amstrad Computer User is also going to help by making that step to publishing far easier than it's ever been, for a limited period only, mind you. They are planning to publish the best games in future issues of this mag, which will be seen by thousands of people! If you've ever wanted to write games you can't afford to miss this golden opportunity!

Writing a video game is hard work, which I guarantee will involve many frustrating hours of intense work. Also, remember it's unlikely that you'll have anybody expert enough to turn to for help when things just refuse to work! Then, when you've finished you'll probably find, as we did, that only practice makes perfect, it's highly unlikely that a publisher will want to publish your first game. We wrote 4 or 5 good games which were never published and the next 4 or 5 were published but we were never paid... it can be tough! Have I put you off yet? I hope not, because, if you can see it through, you'll have a game to be proud of and something unique to you. And who knows, you could go on to write best selling games that earn you a fortune! Even if you only write one game, you'll find it a very valuable experience. When you look at games you'll be able to understand how they work, but far more important is the knowledge you'll have gained of what a computer is and how it works, and in the world today that is a very important skill!

Okay, so all things considered, you'd like to have a bash. The most important consideration is your game concept and this can be broken down into several areas:-

1) DON'T ATTEMPT THE IMPOSSIBLE!
So many people do this and it's such a waste of time and skill. The most important element of a game is that it is fun to play and a game which runs too slow is no fun. Unfortunately, as I am aiming this article at beginners, you'll be using BASIC, which is fairly easy as languages go, but it is slow. So, think of a game which isn't going to stretch the computer's processing power too much. The first game we had published was a board game, where each player took it in turn to move his player which worked well. Other simple ideas include:- Puzzle games (look how simple Tetris is!), maze/platform games (pacman, Chuckie Egg) and reflex games (Break Out). You will not be able to do scrolling screens and massive sprites.

2) INSTANT APPEAL
Your game should appeal to your target audience. For example, if you're writing for boys aged 7-15 a game called "BMX Super Bikes!" is going to be favoured over something called "Baby Tiny Tears!"

3) ORIGINALITY
If you want other people to be interested in your work then it should be original, nobody wants to see a copy of something which they've already got. If however, you are just writing a game for yourself, to learn how to program and how the computer works then copying a simple game is okay. This way you do have the big advantage of knowing what your target is, but it's unlikely anybody will ever publish it.

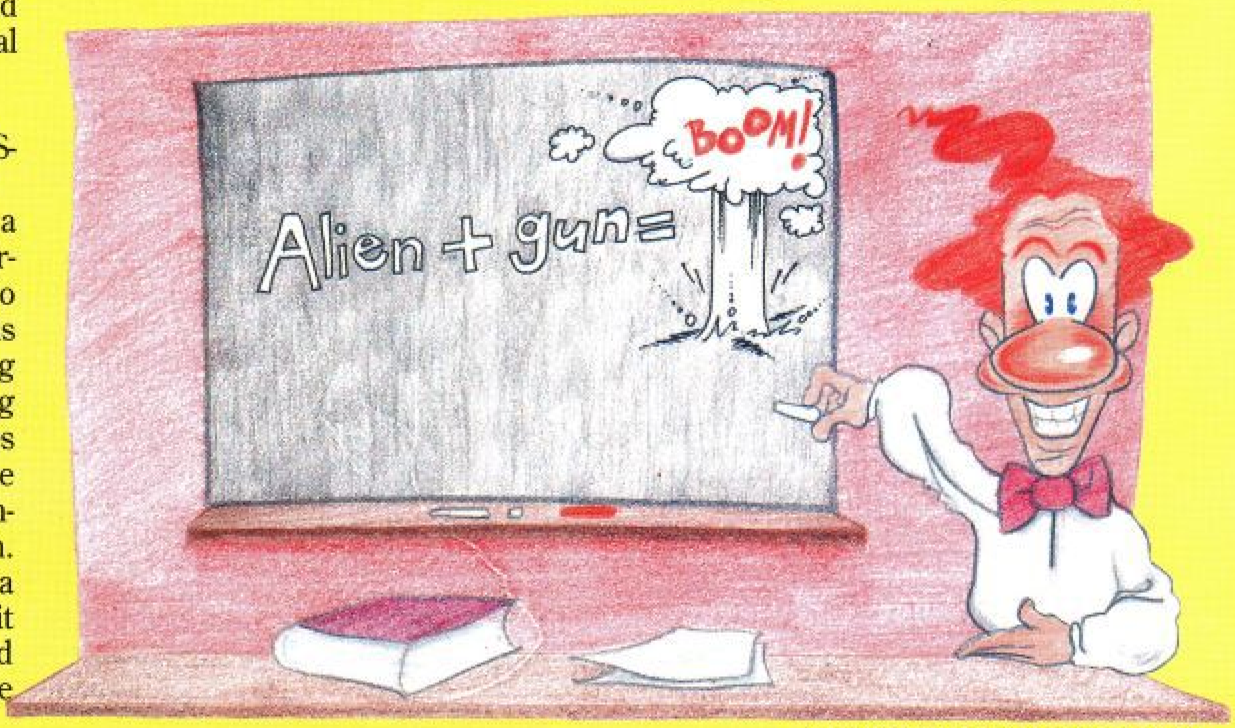
4) WHAT'S IT GOING TO LOOK LIKE
This is where you have to do a "Story Board" which, simply put, is a series of sketches of what the TV display will look like in the final game. I often use gridded paper or draw computer screens using an art program for this.

5) HOW DOES THE PLAYER CONTROL IT?
Make sure the player will find the controls straightforward, limit the number of keys as much as possible and putting a joystick option in often helps. This will ensure the player picks the game up quickly and doesn't get frustrated with the controls.

6) THE MEMORY LIMITATIONS
When using BASIC you will not be able to have massive maps like Dizzy games. You should try to think of something that you know doesn't require much memory, even then you'll probably run out!

7) MUSIC AND SOUND EFFECTS
These can be added right at the end to give your game that extra bit of polish and appeal. You don't need to think about this too much in the design stages.

The above should take you a long time, if it doesn't then you probably haven't thought your idea through enough.



Consider all eventualities, e.g. How does the game start, how does it end, will the player see and know what to do from what's on screen, can the player fall off screen and if so what should happen... etc.

It's often then a good idea to discuss your ideas with somebody, with the help of your Story Board, and make them try to imagine what the game will be like. They may be able to spot obvious problems, and whilst talking to them you will always come across things you had overlooked.

Your next step is getting the graphics (pictures) you need. This is where PANDA SPRITES comes in useful, it's the first program we ever wrote on the Amstrad way back in '86 to help us develop games more easily. This will allow you to draw all the graphics that your game needs straight onto the screen and to view animations. It will then save them in an easy format which your BASIC program can load in and use. The instructions have been included so I won't bore you with them here. Have a play with this and see what you can do before you design your game.

Now to writing your mega-game! I've no idea what you'll write and I'd like to see some very original games so I can't tell you how to write it. But every game requires being broken into hundreds of small, simple operations. See the tree diagram which illustrates roughly the way a game is broken down.

Other techniques:-

a) Backgrounds can easily be set up with data read by a small piece of programming which loops to print (N) frames onto the screen. The DATA could be in this format:- DATA N, F0, X0, Y0, F1, X1, Y1..., F?, X?, Y? where you fill in the values for (N) the number of frames used to build up the screen, (F) the frame number, (X) it's horizontal coord. and (Y) it's vertical coord.

b) Always test collison by comparing coordinates.

c) Use easy to remember variables like 'level', 'lives'

d) Don't use too many GOTOs as you soon get really tangled up and confused.

e) Use lots of GOSUBs, this makes the program very tidy.

When you've written your game you'll have to debug it! This is horrible, you sit playing your game trying to enjoy it, but praying everything will work correctly. The way to avoid too much of this is to be careful when writing the code, and testing each bit fully as you write it. You must make sure your game is working perfectly with no bugs before sending it in. Remember, a simple but perfectly working game is better than one which continually crashes or cheats.

The most important thing, keep backup copies as you develop the game on separate disks/tapes and put them in a safe place. You'll be furious if all your work is on one disc and it goes missing or you drop it in a cup of coffee (don't laugh, these things happen!). When you eventually finish, make a few more copies, don't under any circumstances send your only copy to AMSTRAD COMPUTER USER! They'd love to receive a copy but don't want a mad axe-wielding programmer shredding the office if they accidently lose the only copy!!

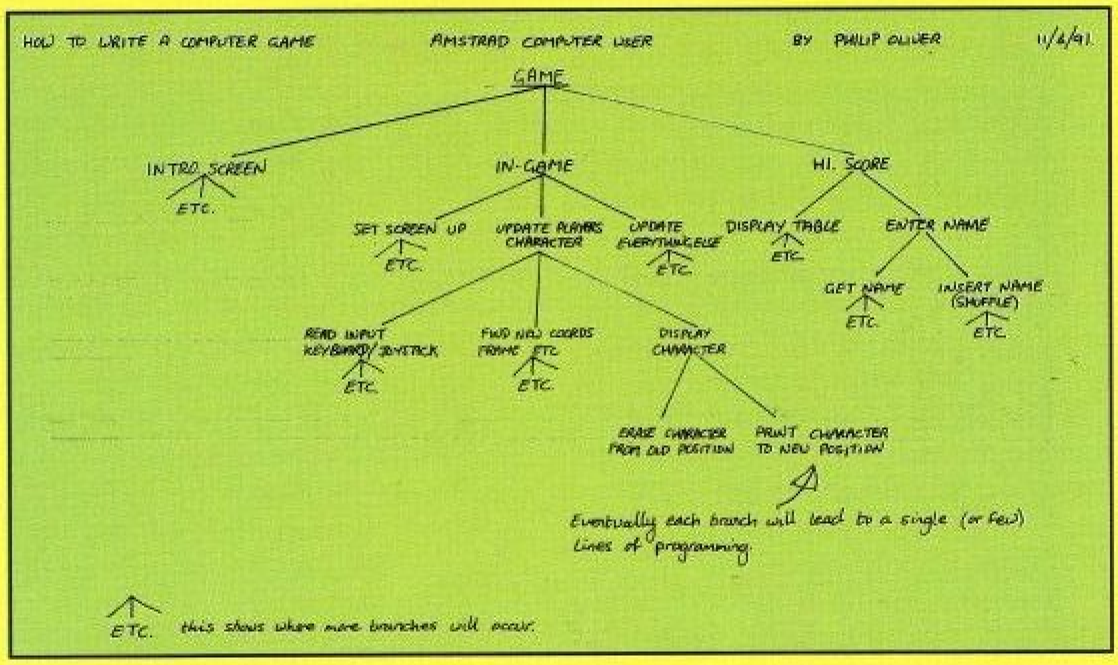
If you've mastered BASIC and are looking to move on to assembler (machine code) then I can give a little advice on what equipment to have:-

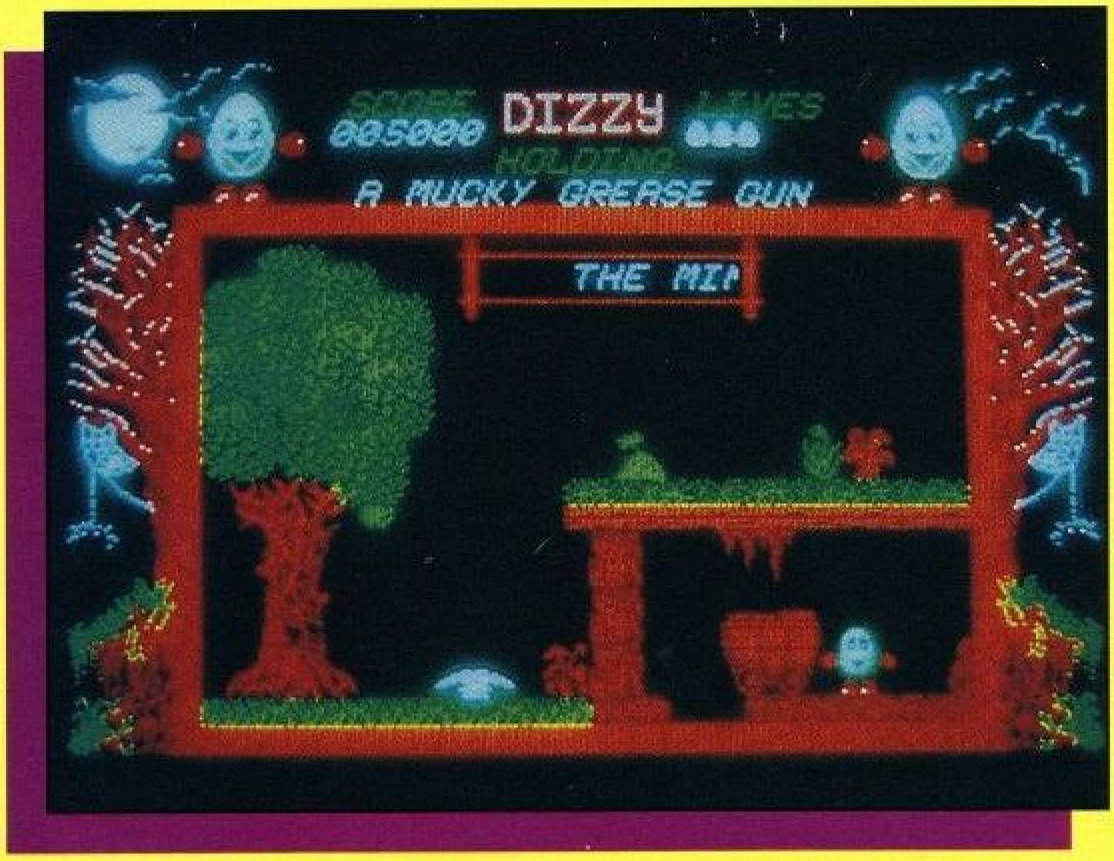
i) An AMSTRAD CPC with disk drive
ii) The AMSTRAD CPC Firmware guide
iii) MAXAM ROM Assembler from Arnor
iv) Z80 Programming by Rodney ZAKS published by Sybex
v) The Advanced OCP Art Studio.

This is all that we used to develop our first 8 Code Masters games including the original DIZZY.

I wish you luck and I'd love to see some great games and future game authors emerge after reading this article.

For those of you who already have the excellent Panda Sprites utility – good on you. However, those who don't have it, should keep their eyes glued to these pages in the near future for some exceptional news. If you want a copy of the utility, keep reading!!





Emulation Workings

Gordon explains what the common terminal emulations are, and what some terms mean. He also defines Terminal Emulation!!

Of all the questions I get asked on a frequent basis, one of the most common is 'What are all these Terminal Emulations we hear about – what does it all mean?' The time has come for yours truly to answer in simple terms.

If we go back a few years, computing was nothing like it is these days. For a start, the blessed things were enormous – a computer with all the power of a pocket calculator needed a fair sized building to house it – and they didn't have neat little monitors such as we are used to. Input was via punched cards and tape – no keyboards.

A little further down the road, things changed. Input was via keyboard, and output was via a monitor – great strides here – but the machines were still enormous. There was no way you could have a computer in a little college, or in every branch office of Sproggit and Sylvester. So, instead, these branch offices and colleges communicated over the phone lines (via modem), and used Terminals – basically a keyboard and monitor with no computing power of their own. All the terminal had to do was send the keypresses to the compu ter, and display what the computer sent to it – in the way the central machine would do it itself.

Now, computers from different manufacturers had differing keyboard layouts. Not the QWERTY layout, but function keys and other little knobs and whistles. Each key would do something different, so you couldn't easily attach a DEC keyboard to an IBM computer – they didn't work the same. When things marched a little further down the road, and personal computers came out onto the market, similar p roblems arose.

The CPC's screen layout, for instance, would not be the same as a DEC VT220 terminal's. Come to that, its keyboard would not have the same functionality – no function keys with the same legends as the DEC terminal's function keys. (If this all sounds a bit simplistic, don't worry, it's meant to be – you'll see why) Thus, if you wanted to use a CPC (or any other computer) to talk to one of these Mainframe computers (as they had now been christened) or Mini computers, you had to make your personal computer behave like one of the machine's own terminals. You had to EMULATE a terminal – hence Terminal Emulations.

ANSI, NANSI, FANSI!

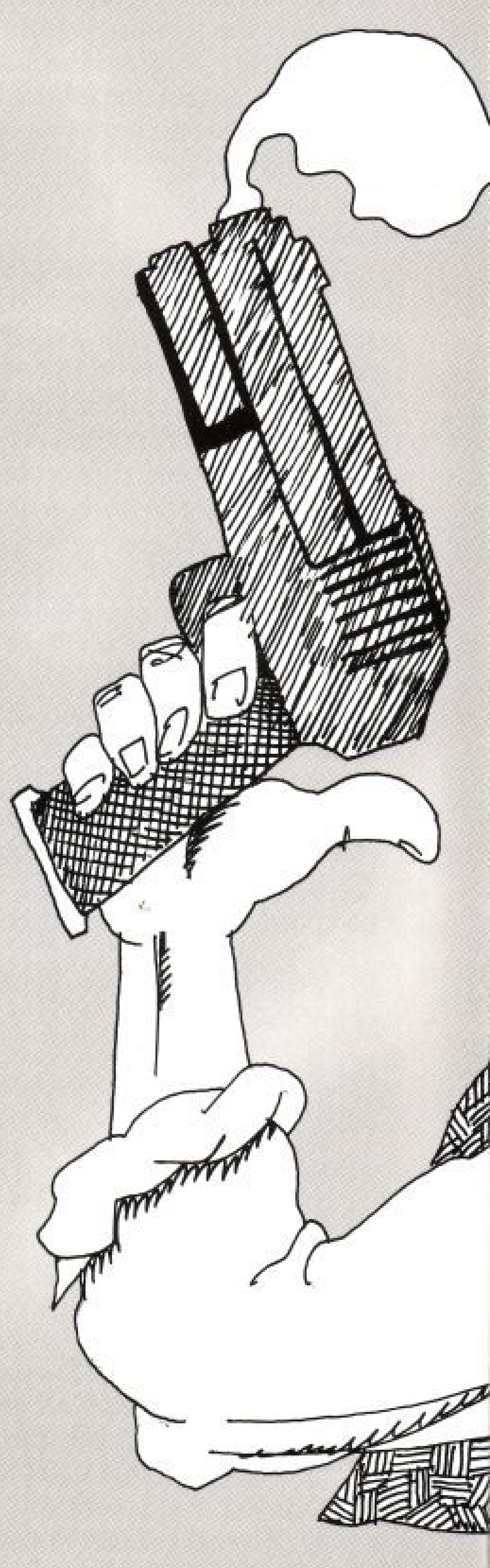
In the CPC world, emphasis stayed firmly with the screen capabilities of a terminal, and not nearly so much with the keyboard layout. To all intents and purposes, what the keys sent was academic, because MEX, at the beginning more or less the only comms package that was freely available, had no facility for key redefinition other than what could be done via SETKEYS in CP/M. In fact the screen drivers for CP/M were based on one of the DEC terminals anyway – loosely, granted, but it wasn't a high function one. Its screen emulation was a basic TTY.

TTY? TeleTYpe – the thing you used to see clattering out the football scores every Saturday evening on Grandstand. The TTY screen em ulation is extremely austere – it puts letters on the screen, in the order they arrive, and responds to a carriage return and line feed. That's about all it does – no fancy graphics, not even an extended character set – 7 bit characters only.

For ages and ages, that's about all we had to work with. It was hardly awe inspiring, but it did work, and, at the time, nobody else had much of anything else anyway. Most Bulletin Board Systems (BBS) were set up to use only a TTY emulation from their callers, and everything in the garden was relatively rosy.

At around the same time as the CPC saw the light of day – probably a little earlier, in fact – British Telecom launched a service that relied upon modems and television screens. Prestel was its name. It spawned the mighty Micronet, the online computer magazine. Prestel was different, very different. For a start, its dedicated terminal showed graphics and colours (eight in all) in a 24 line by 40 column display. OK, the graphics weren't (and aren't) anything to write home about today, but at that time, they were pretty darn ed clever.

New terminal emulations had to be written to cope with the screens that folks would receive. For instance, not just text, but also escape sequences had to be received and acted upon. The data was still seven bit, but colour information came hurtling down the line in the form <ESC><CHARACTER> and the receiving end had to have the intelligence to know what to do with this two-character string. If it got <ESC><A>, it had to change the colour of the text to red. <ESC><B> meant green text. There are codes to handle graphics – <ESC><S> gives yellow graphics characters, and so on. Even background colours can be changes (line by line),



in which case the escape sequence is a little longer – <ESC><C><ESC><]> gives a yellow background, and needs to be followed by <ESC><D> to put blue text on it (or any other of the colours that you could see on a yellow background.

Compare one of the Micronet screens I've captured with the Maxwell House screens – look at the difference – the Micronet display is chunky and colourful, more so than the Maxwell House one, but then the MH screens I've captured aren't just TTY – more later.

Obviously, on a CPC, the Prestel emulation takes some work to achieve. TTY is 80 columns by 24 or 25 lines, although the line count is immaterial, since information just scrolls off the top of the screen. Mode 2 gives us that, and since there's no colour or positi onal information to be processed, it's an easy one to implement on our machines. Not so the Prestel display. We can get 40 columns, yes, (mode 1) but not in eight colours, and certainly not with eight colours flashing (in fact, the flashing colours can be considered as another set of colours). Alternatively, we can get the colours, but only in 20 columns – mode 0.

Thus, programmers had to fiddle with direct screen drivers or settle for a sub-set of the Prestel terminal emulation and use mode 1.

Most full emulations, in fact, drive the Arnold in mode 0 and do some clever tricks to get the columns up to 40.



The next emulation to arrive on the CPC screen came relatively recently. ANSI (the American National Standards Institute) has set a standard for screen drivers which included positional and colour information, as well a single graphics characters. BBS systems picked up on this and began to offer ANSI emulations for their users. Naturally, comms software followed suite, and so users of more powerful machines soon had colour and positional information in their terminal emulations – see the Maxwell House grabs for the full colour ANSI screens.

We CPC users, however, could only get 80 columns in mode 2, so, when ANSITERM was written, we had to make do with a subset yet again

- this time in MONO, but with everything else implemented. The resultant emulation is much more satisfying. For the first time in years CPC owners can use full screen editors on BBS systems, cursor their ways around menus, and generally act as though their machin es are a lot more powerful than they really are.

What have we got?

Not a lot, in real terms, but enough, frankly. CPC comms addicts have three emulations to choose from – TTY, Prestel and Mono ANSI. We can discard TTY, really, since ANSI covers that – TTY being now a sub-set of the ANSI emulation, which leaves us with just Prestel (viewdata or videotext are its other names) and ANSI that are the important two. You'll often see things like VT52, VT100, VT102 and so on in packages for other machines. ANSI more or less covers them all, mainly because the emulations we've discussed concentra te more on the screen emulation than the keyboards.

In fact, if you've got a Prestel emulation you're happy with, and grab a copy of ANSITERM from either Micronet or Maxwell House, you 'll be well set up to use just about any public service you care to mention.

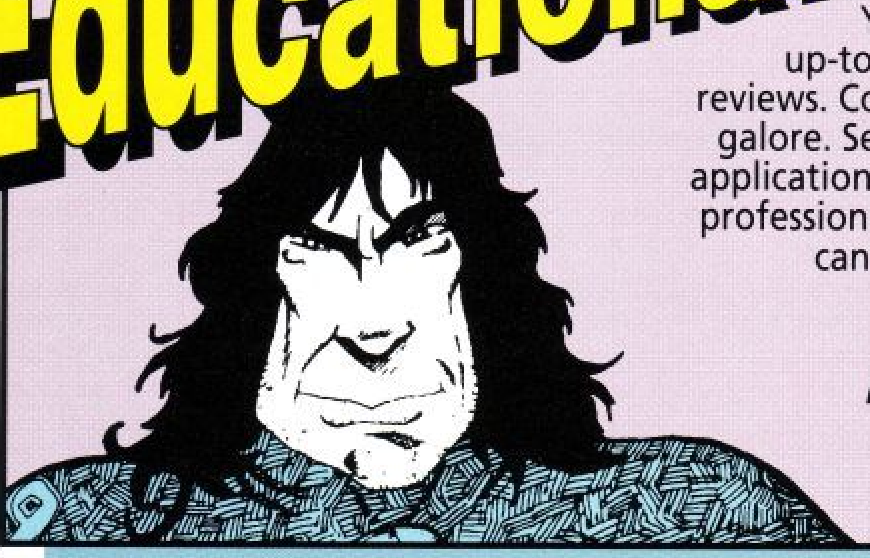
The only other areas we need to consider are file transfer protocols, and, again, you don't need that many. In fact, Micronetters need only the CET downloader that all CPC Prestel emulating comms packages include, so that's taken care of for Micronet. Otherwise, X modem and Zmodem ought to let you trough from any system you log onto. Xmodem, again, is very common, and Zmodem is provided by the ZMP program.

We'll leave it there for this month – my brain hurts now! Until next time, take care, live long and prosper!

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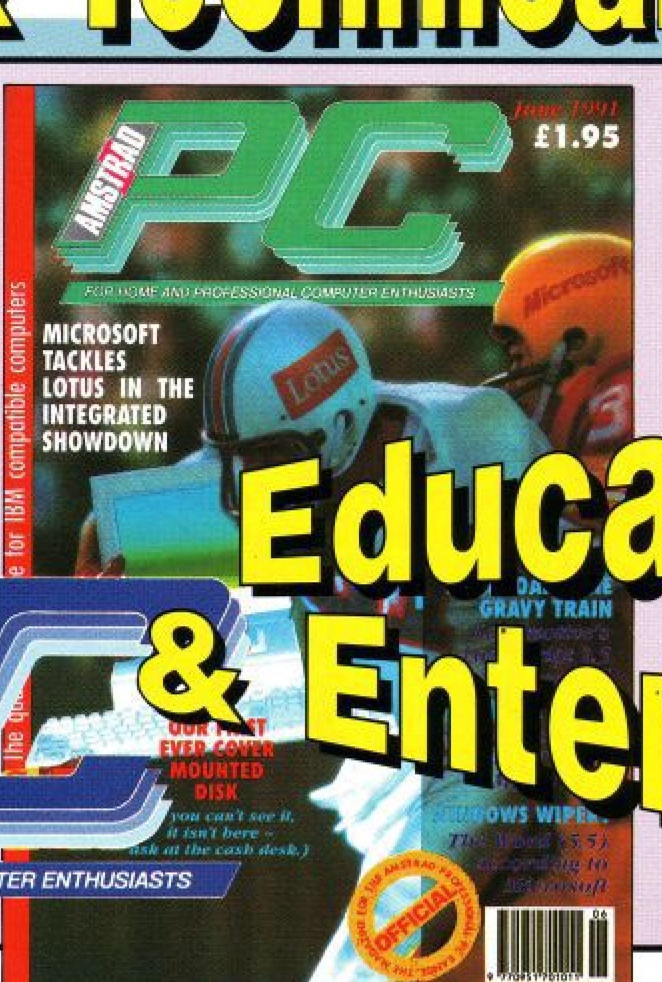
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The End is near

Glynne Davies wraps up the BASIC tutorial in style with some character fun.

Large characters
To Display characters larger than the normal character set size, it is necessary to find the character's bit pattern. The bit pattern is a series of eight bytes, the binary shape of each byte being used to form an eighth part of the character as below (1s represent lit pixels where 0s are unlit pixels):

```
00000000
00011000
00100100
00100100
00111100
00100100
01100110
01100110
```

This bit pattern is held in memory just above HIMEM (HI-MEMory) and can be Peeked to find the patterns. To double the height of a character we need to use two characters, the top character would hold the information for the top 4-bit patterns and the character below the bottom 4-bit patterns e.g. for the example above:

top	bottom
00000000	00111100
00000000	00111100
00011000	00100100
00011000	00100100
00100100	01100110
00100100	01100110
00100100	01100110
00100100	01100110

Place the top and bottom vertically next to each other and you have a double height character. The program that follows produces characters four times higher than normal, the bit pattern is Peeked at line 1040 and the array p(1) to p(8) is developed. P(1) is the top byte and p(8) the bottom byte. Four characters are used for the shape and each character is re-defined to represent two original bytes as in line 1060.

```
1060 SYMBOL 255,p(1), p(1), p(1), p(1), p(2), p(2),p(2), p(2)
```

The character 255 is re-defined as the top four bytes all being the same as p(1) and the bottom four as p(2). Symbols 254, 253 and 252 are also re-defined. The routine at line 1085 prints the four characters (255, 254, 253 and 252) to the screen vertically.

The sub-routine starting at line 1000 is all you need within your own programs, providing lines 10 and 12 are included. To use the quadhigh routine include a line like 20 (n$ is the display string, x is the start position, y the position down and p the Pen colour).

Using this system you can have characters as large as you like, for double height you need to re-define 2 characters, treble height 3 characters etc.

```
10 SYMBOL AFTER 32
12 MEMORY HIMEM
13 MODE 0
20 n$="Quadruple height":x=3: y=10: p=7: GOSUB 1000
25 LOCATE 3, 16:PRINT n$
30 CALL &BB18
40 END
1000 REM Quadhigh
1005 PEN p
1010 FOR n=1 TO LEN(n$)
1020 pk=ASC (MID$(n$, n, 1))
1030 FOR set=1 TO 8
1040 p(set)=PEEK(HIMEM+(8*pk-32))+set)
1050 NEXT
1060 SYMBOL 255, p(1), p(1), p(1), p(1), p(2), p(2), p(2), p(2)
1070 SYMBOL 254, p(3), p(3), p(3), p(3), p(4), p(4), p(4), p(4)
1080 SYMBOL 253, p(5), p(5), p(5), p(5), p(6), p(6), p(6), p(6)
1082 SYMBOL 252, p(7), p(7), p(7), p(7), p(8), p(8), p(8), p(8)
1085 LOCATE x+ (n-1), y:PRINT CHR$ (255); CHR$(10); CHR$(8); CHR$ (254); CHR$(10); CHR$(8); CHR$ (253); CHR$(10); CHR$(8); CHR$ (252)
1090 NEXT
1100 RETURN
```

When increasing the size of characters they become thin, the next program doubles the height and the width of a character, retaining the original shape. To get double width we must take a byte bit pattern, split it down the middle into two (called Nibbles) and then convert each Nibble to a full byte.

```
10 REM DOUBLE HEIGHT DOUBLE WIDTH ROUTINE
20 REM by GLYNNE DAVIES
30 SYMBOL AFTER 32
40 REM MODE 2 demonstration (any mode can be used)
50 DEFINT a-z: MODE 2
60 n$="Double height Double Width":x=15: y=10: p=1: GOSUB 1020
70 LOCATE 28, 16:PRINT n$
80 CALL &BB18
90 END
1000 REM ***********************
1010 REM include the routine below in any program
1020 REM Double Height Double Width Routine
1030 PEN p
1040 FOR n=1 TO LEN (n$)
1050 pk=ASC (MID$(n$, n,1))
1060 FOR set=1 TO 8
1070 p=PEEK (HIMEM+(8*(pk-32)) +set):REM set p to the byte
1080 GOSUB 1180:REM Change to two nibbles (a nibble is half a byte (4 bits))
1090 NEXT
1100 REM convert the characters 255, 254, 253, 252 into the four quarters of a block
1110 SYMBOL 255, hb(1), hb(1), hb(2), hb(2), hb(3), hb(3), hb(4), hb(4)
1120 SYMBOL 254,lb(1), lb(1), lb(2), lb(2), lb(3), lb(3), lb(4), lb(4)
1130 SYMBOL 253,hb(5), hb(5), hb(6), hb(6), hb(7), hb(7), hb(8), hb(8)
1140 SYMBOL 252,lb(5), lb(5), lb(6), lb(6), lb(7), lb(7), lb(8), lb(8)
1150 LOCATE x+(n*2)-2, y: PRINT CHR$ (255); CHR$ (254); CHR$ (10); CHR$ (8); CHR$ (8); CHR$ (253); CHR$ (252)
1160 NEXT
1170 RETURN
1180 REM change to two nibbles
1190 lb=p AND 15: a=lb: GOSUB 1220: lb(set)=nn:nn=0
1200 hb=p AND 240: a=hb/16: GOSUB 1220: hb (set) =nn:nn=0
1210 RETURN
1220 REM change nibbles TO bytes
1230 IF a=0 THEN RETURN
1240 IF a-8>=0 THEN nn=nn+192: a=a-8
1250 IF a-4>=0 THEN nn=nn+48: a=a-4
1260 IF a-2>=0 THEN nn=nn+12: a=a-2
1270 IF a=1 THEN nn=nn+3
1280 RETURN
```

Combining Programs
This program is a combination of 2 programs in the series, Quadhigh and Scroller. This program demonstrates more fully the use of the increased size characters. There is no need to type all the program as half the program is written already. Follow the steps.

1. Load back the Quadhigh program
2. Delete lines 10-40
3. Renumber from 160 and then type in the rest of the program.

```
10 REM This program can be used to display any message.
20 SYMBOL AFTER 32
30 MEMORY HIMEM
40 p=11
50 WHILE 1
60 MODE 0
70 p=(p+1) MOD 14: INK 1,p+13: INK 0,p:BORDER p:PEN 1
80 n$="LEARN":x=8: y=2: GOSUB 160
90 n$="AMSTRAD":x=7:y=6: GOSUB 160
100 n$="BASIC":x=8: y=10:GOSUB 160
110 n$="THE":x=9: y=14: GOSUB 160
120 n$="EASY WAY": x=6: y=18: GOSUB 160
130 GOSUB 300
140 WEND
150 END
160 REM Quadhigh
170 FOR n=1 TO LEN (n$)
180 pk=ASC (MID$(n$,n,1))
190 FOR set=1 TO 8
200 p(set)=PEEK(HIMEM+(8*(pk-32))+set)
210 NEXT
220 SYMBOL 255, p(1), p(1), p(1), p(1), p(2), p(2), p(2), p(2)
230 SYMBOL 254, p(3), p(3), p(3), p(3), p(4), p(4), p(4), p(4)
240 SYMBOL 253, p(5), p(5), p(5), p(5), p(6), p(6), p(6), p(6)
250 SYMBOL 252, p(7), p(7), p(7), p(7), p(8), p(8), p(8), p(8)
260 LOCATE x+(n-1), y: PRINT CHR$ (255); CHR$ (10); CHR$ (8); CHR$ (254); CHR$ (10); CHR$ (8); CHR$ (253); CHR$ (10); CHR$ (8); CHR$ (252)
270 NEXT
280 RETURN
290 REM Scroll the message
300 scroll$="Buy the book with tape or Disc, forget typing all those programs, load each program and read the listings provided. The only way to learn a language quick."
310 blkscr$=SPACE$(19)+scroll$
320 FOR n=1 TO LEN (blkscr$)
330 FOR w=1 TO 10: NEXT:REM slow the scroll
340 LOCATE 1,24: PRINT LEFT$ (blkscr$,20): REM Print 20 characters at the front of the string
350 add$=LEFT$(blkscr$,1): REM Make a copy of the first character
360 blkscr$=RIGHT$ (blkscr$,LEN (blkscr$)-1)+add$: REM make a new string missing the first character and placing the first character on the end of the new string.
370 NEXT
380 RETURN
```

The last program this month is an example of programming a game, it demonstrates screen movement and the use of any keys for control, it's simple yet addictive. Try improving the game by increasing the size of the chaser and alien to four characters in a block and redefining them to sprites, add colour and introduce other aliens which are worth more points.

```
10 REM Bounce
20 DEFINT a-z: REM Set all variables to integers
30 GOSUB 590: REM select keys
40 WHILE game=0:REM Loop for more than one game
50 score=0: elapse=0: REM reset variables
60 MODE 1
70 LOCATE 1,1:PRINT STRING$ (40, 143): REM Produce a box
80 LOCATE 1,25:PRINT STRING$ (40, 143);
90 FOR n=2 TO 24:LOCATE 1,n:PRINT CHR$(143)
100 LOCATE 1,n: PRINT CHR$(143)
110 LOCATE 40,n:PRINT CHR$ (143);
120 NEXT n
130 PEN 0:PAPER 1:LOCATE 18,1:PRINT "BOUNCE":LOCATE 3,25:PRINT "Time";:PEN 1:PAPER 0
140 GOSUB 540:REM Place alien on screen
150 chaser$=CHR$(227):REM define chaser character
160 x=2:y=12: add=1:up=1
170 WHILE elapse<100:REM approx 100 seconds
180 k$=INKEY$
190 GOSUB 430:x=x+add: y=y +up: REM Erase chaser and update x and y
200 GOSUB 440: REM Print in chaser
210 IF x>38 THEN GOSUB 510: add=-1: REM Change direction of chaser
220 IF x<3 THEN GOSUB 510: add=1
230 IF y<3 THEN GOSUB 510: up=1
240 IF y>23 THEN GOSUB 510: up=-1
250 sec=(sec+1) MOD 30: IF sec=0 THEN GOSUB 450: REM Print elapsed time
260 IF k$="S" THEN elapse=100:REM End game if S is pressed
270 IF k$=a$ AND x<39 THEN up=0: add=1: REM Change direction when certain keys are pressed
280 IF k$=b$ AND x>2 THEN up=0:add=-1
290 IF k$=c$ AND y<24 THEN add=0:up=1
300 IF k$=d$ AND y>2 THEN add=0:up=-1
310 IF x=xalien AND y=yalien THEN score= score+1: GOSUBM 540: REM Check if the chaser has hit the alien and if so increase score and place new alien
320 WEND
330 comment$="RUBBISH":IF score>20 THEN comment$="AVERAGE"
340 IF score>60 THEN comment$="BRILL"
350 LOCATE (40-LEN (comment$))/2,8: PRINT comment$
360 LOCATE 12,10: PRINT "Your score was"; score
370 LOCATE 6,12: PRINT "Would you like another go Y/N"
380 GOSUB 760: REM Y/N key choice
390 IF k$="N" THEN game=1: REM End the game
400 WEND
410 CLS: PRINT "Play me again sometime!"
420 END
430 LOCATE x,y: PRINT " ":RETURN: REM remove chaser
440 LOCATE x,y:PRINT chaser$: RETURN: REM Print in chasewr
450 LOCATE 8,25
460 PEN 0:PAPER 1
470 elapse=elapse+1
480 PRINT elapse;: REM Print time elapsed
490 PEN 1: PAPER 0
500 RETURN
510 REM Sound
520 SOUND 1,100, 5, 7, 0, 0, 1
530 RETURN
540 xalien=INT (RND(1) *37)+2: yalien=INT(RND(1) *22)+2: REM random choices for alien position
550 LOCATE xalien, yalien: PRINT CHR$(250)
560 SOUND 1,500, 25, 7, 0, 0, 1
570 PEN 0: PAPER 1: LOCATE 29, 25: PRINT "score=";score;
580 PEN 1:PAPER 0: RETURN
590 REM Select your choice of keys
600 MODE 1
610 WHILE k$<>"Y": REM Loop until Y is chosen
620 LOCATE 7,3:PRINT "Please select the keys for"
630 down=6: LOCATE 15,down:PRINT "RIGHT...": GOSUB 710:a$=k$
640 down=8:LOCATE 15,down: PRINT "LEFT...": GOSUB 710:b$=k$
650 down=10: LOCATE 15,down: PRINT "DOWN...":GOSUB 710:c$=k$
660 down=12: LOCATE 15,down: PRINT "UP.....": GOSUB 710:d$=k$
670 LOCATE 9,16:PRINT "Is this choice OK Y/N"
680 GOSUB 760: REM Y or N key choice
690 WEND
700 RETURN
710 REM choice of key
720 LOCATE 25,down:PRINT " ":REM blank out last choice
730 k$=" ":WHILE k$=" ": k$=INKEY$:WEND
740 LOCATE 25,down: PRINT k$
750 RETURN
760 REM Y?N key choice
770 WHILE INSTR ("YN",k$)=0 OR k$=" ":REM accept only Y or N
780 k$=INKEY$:k$=UPPER$(k$)
790 WEND: RETURN
```

■ LISTING ■

TRIG

BY D A JUCHAU



This month's mega type-in features some very nifty angle calculation and a veritable golden oldie to boot.

Run the proggie and follow the on-screen prompts, entering three separate pieces of data, to calculate length of sides and angles, using the sine rule, on just about any triangle you like. Budding mathematicians eat your hearts out.

```
10 '### file trig ###
20 ' fn a is a function to determine angle from si
ne rule
30 DEF FN a(a,b,c)=FN x(SIN(a)*(c/b))
40 ' fn s is a function to determine side from sin
e rule
50 DEF FN s(a,b,c)=SIN(c)*b/SIN(a)
60 ' cosine rule for angle
70 DEF FN c(a,b,c)=FN y(((a*a+b*b-c*c)/(2*a*b)))
80 'function for cosine rule side
90 DEF FN d(a,b,c)=SQR(b*b+c*c-COS(a)*2*b*c)
100 ' fn x is to obtain ASN using ATN
110 DEF FN x(a)=ATN(a/SQR(1-a*a))
120 ' fn y is to obtain ACS using ATN
130 DEF FN y(a)=ATN(SQR(1-a*a)/a)
140 DIM a(3):DIM s(3):DIM e(3)
150 MODE 1:DEG:WINDOW#1,1,15,20,23:WINDOW#2,1,40,5
,19:WINDOW#3,1,40,25,25
160 WINDOW#4,1,40,24,24:b$="":r$="1234"
170 PEN#1,1:PEN#4,3:BORDER 26:INK 0,26:INK 1,0:INK
 2,2:INK 3,6:GOTO 2270
180 '£ Main Calc. for triangle £
190 '££££££££££££££££££££££££££
200 CLS: k=0:m=0
210 'k is a counter for number of zero's
220 'm is 1 if more than one solution is possible
230 FOR i=1 TO 3
240 PEN#3,2:PRINT#3,"ENTER";:PEN#3,3:PRINT#3," ANG
LE";:PEN#3,2:PRINT#3," IN DEC.DEGREES";:PEN#3,1:IN
PUT#3,a(i)
250 'a(1 to 3) stores angles
260 CLS#3:IF a(i)>180 THEN 1500
270 PEN#3,2:PRINT#3,"ENTER";:PEN#3,3:PRINT#3," SID
E";:PEN#3,2:PRINT#3," OPPOSITE ANGLE";:PEN#3,1:INP
UT#3,s(i)
280 's(1 to 3) stores sides
290 CLS:IF (s(i)<0) OR (a(i)<0) THEN 1520
300 IF a(i)>0 THEN 380
310 IF s(i)>0 THEN 350
320 e(i)=1
330 k=k+2
340 GOTO 430
350 e(i)=3
360 k=k+1
370 GOTO 430
380 IF s(i)>0 THEN 420
390 e(i)=4
400 k=k+1
410 GOTO 430
420 e(i)=2
430 NEXT i
440 IF k<>3 THEN 1420
450 t=e(1)+e(2)+e(3)
460 't is for type of triangle
470 IF t>8 THEN 490
480 t=t+1
490 t=t-6
500 'jump to type of triangle
510 ON t GOTO 520,760,910,1010,1200,1390
520 ' type 1 triangle (2 sides & angle adjacent)
530 FOR i= 1 TO 3
540 IF e(i)<>2 THEN 580
550 a1=a(i)
560 s1=s(i)
570 GOTO 600
580 IF e(i)=1 THEN 600
590 s2=s(i)
600 NEXT i
610 IF s1<(s2*SIN(a1)) THEN 1470
620 a2=FN a(a1,s1,s2)
630 a3=180-(a1+a2)
640 s3=FN s(a1,s1,a3)
650 IF a1>90 THEN 1450
660 IF ABS(s1-s2*SIN(a1))<0.0000001 OR s1>=s2 THEN
 1540
670 m=1:GOSUB 1800:GOTO 1540
680 b$="5-ALTERNATIVE SOLUTION":r$="12345"
690 GOTO 2270
700 GOSUB 1860
710 CLS:c$="{ALTERNATIVE SOLUTION}"
720 a2=180-a2
730 a3=180-(a1+a2)
740 s3=FN s(a1,s1,a3)
750 m=0:b$="":r$="1234":GOTO 1540
760 'type 2 triangle ( 2 angles & side opposite)
770 FOR i=1 TO 3
780 IF e(i)<>2 THEN 820
790 a1=a(i)
800 s1=s(i)
810 GOTO 840
820 IF e(i)=1 THEN 840
830 a2=a(i)
840 NEXT i
850 a3=180-(a1+a2)
860 IF a3<=0 THEN 1500
870 s2=FN s(a1,s1,a2)
880 s3=FN s(a1,s1,a3)
890 GOSUB 2410
900 GOTO 1540
910 ' type 3 triangle ( 3 sides)
920 GOSUB 2440
930  IF ABS(s2*s2+s3*s3-s1*s1)<1E-12 THEN 970
940 IF s1+s2<=s3 THEN 1470
950 a1=FN c(s2,s3,s1)
960 GOTO 980
970 a1=90
980 a2=FN c(s1,s3,s2)
990 a3=180-(a1+a2)
1000 GOTO 1540
1010 ' type 4 triangle ( 2 sides & angle between)
1020 j=0
1030 ' j is to distinguish between sides s2 & s3
1040 FOR i=1 TO 3
1050 IF e(i)<>4 THEN 1080
1060 a1=a(i)
1070 GOTO 1130
1080 IF j>0 THEN 1120
1090 j=1
1100 s2=s(i)
```

```
1110 GOTO 1130
1120 s3=s(i)
1130 NEXT i
1140 IF s2>s3 THEN s4=s2:s2=s3:s3=s4
1150 s1=FN d(a1,s2,s3)
1160 a2=FN c(s3,s1,s2)
1170 a3=180-(a1+a2)
1180 GOSUB 2410
1190 GOTO 1540
1200 ' type 5 triangle ( 2 angles & side between)
1210 j=0
1220 ' j is to distinguish between angles a1 & a2
1230 FOR i=1 TO 3
1240 IF e(i)<>3 THEN 1270
1250 s3=s(i)
1260 GOTO 1320
1270 IF j>0 THEN 1310
1280 a1=a(i)
1290 j=1
1300 GOTO 1320
1310 a2=a(i)
1320 NEXT i
1330 a3=180-(a1+a2)
1340 IF a3<=0 THEN 1500
1350 s1=FN s(a3,s3,a1)
1360 s2=FN s(a1,s1,a2)
1370 GOSUB 2410
1380 GOTO 1540
1390 PRINT"AS THERE ARE NO DIMENSIONS FOR THE SIDE
S"
1400 PRINT"NO SOLUTION IS POSSIBLE"
1410 GOTO 2270
1420 PRINT"SIX ITEMS OF DATA ARE REQUIRED OF WHICH
"
1430 PRINT"THREE MUST BE ZERO'S YOU HAVE INPUT";k;
"ZERO'S"
1440 GOTO 2270
1450 IF s1<s2 THEN 1470
1460 IF s1<s3 THEN 1470
1470 PRINT"LENGTH OF SIDE TOO SHORT?"
1480 PRINT"NO SOLUTION?"
1490 GOTO 2270
1500 PRINT"ANGLE TOO LARGE?"
1510 GOTO 1480
1520 PRINT"NEGATIVE VALUES NOT ALLOWED?"
1530 GOTO 1480
1540 GOSUB 2410:GOSUB 1720
1550 IF m=1 THEN 680 ELSE RETURN
1560 '££££££££££££££££££££
1570 '£  Routine for HELP £
1580 '££££££££££££££££££££
1590 CLS:PRINT TAB(14);"TRIGONOMENTRY";TAB(54)"---
----------"
1600 PRINT "Program for solution of TRIANGLES,give
n";"THREE facts, either ANGLES or SIDES it";
1610 PRINT"will calculate the remaining THREE fact
s";"and PRINT & PLOT out all SIX items."
1620 PRINT:PRINT"INPUT angles in DECIMAL DEGREES e
ach";"followed by the SIDE opposite the ANGLE"
1630 PRINT"Substituting a ZERO for unknown";"quant
ities making a total of SIX entries"
1640 PRINT"ENTRIES:-Are prompted by a request on";
"the screen,items should be keyed and";"entered by
 pressing the ENTER key."
1650 PRINT:PRINT"A Triangle with 2 sides & angle a
djacent can have 2 ANSWERS if this occurs then by
selecting 5 on Menu will display the Alternative S
olution"
1660 PRINT#3,"press SPACE for next page"
1670 IF INKEY$=CHR$(32) THEN 1680 ELSE 1670
1680 CLS
1690 PRINT"To obtain HARDCOPY of PLOT first LOAD,
";"TSD(Text Screen dump by Cliff Lawson)";"ref. DM
P 2000 printer manual,RUN TSD ";"then RELOAD TRIG.
"
1700 PRINT:PRINT"Programmed by:- D.JUCHAU 29-11-19
90.
1710 RETURN
1720 '£££££££££££££££££££££££££££££
1730 '£  Routine to print Values  £
1740 '£££££££££££££££££££££££££££££
1750 PEN 3:PRINT TAB(3);"ANGLE";TAB(10);c$;TAB(33)
;:PEN 2:PRINT;"SIDE"
1760 PEN 3:PRINT"A1=";:PEN 1:PRINT;USING"###.####"
;a1;:PEN 2:PRINT TAB(28);"S1=";:PEN 1:PRINT;USING"
####.####";s1
1770 PEN 3:PRINT"A2=";:PEN 1:PRINT;USING"###.####"
;a2;:PEN 2:PRINT TAB(28);"S2=";:PEN 1:PRINT;USING"
####.####";s2
1780 PEN 3:PRINT"A3=";:PEN 1:PRINT;USING"###.####"
;a3;:PEN 2:PRINT TAB(28);"S3=";:PEN 1:PRINT;USING"
####.####";s3
1790 GOTO 1910
1800 '£££££££££££££££££££££££££££££££££
1810 '£ Save data - alternative sol. £
1820 '£££££££££££££££££££££££££££££££££
1830 a11=a1:a12=a2:a13=a3:s11=s1:s12=s2:s13=s3
1840 RETURN
1850 '£££££££££££££££££££££££££££££££££
1860 '£ Change data-Alternative sol. £
1870 '£££££££££££££££££££££££££££££££££
1880 a1=a11:a2=a12:a3=a13:s1=s11:s2=s12:s3=s13
1890 RETURN
1900 '£££££££££££££££££££££££££
1910 '£ Scale for plot routine £
1920 '£££££££££££££££££££££££££
1930 xs=400/s3
1940 ys=208/(s2*SIN(a1))
1950 IF xs>ys THEN 1960 ELSE s=xs:GOTO 1970
1960 s=ys
1970 '££££££££££££££££
1980 '£ Plot routine £
1990 '££££££££££££££££
2000 PEN 1:PLOT 352-(s3/2*s),216-((s2/2*s)*SIN(a1)
)
2010 TAG:MOVER-36,4,3:PRINT"A2";:MOVER 4,-4:MOVER
((s*s3/2)-16),-8,2:PRINT"S3";:MOVER-((s*s3/2)+16),
8
2020 DRAWR s*s3,0,1
2030 MOVER 4,4,3:PRINT"A1";:MOVER-36,-4:MOVER-((s2
*s/2*SIN(90-a1))-12),((s*s2/2*COS(90-a1))+16),2:PR
INT"S2";:MOVER ((s2*s/2*SIN(90-a1))-44),-((s*s2/2*
COS(90-a1))+16)
2040 DRAWR- s2*s*SIN(90-a1),s*s2*COS(90-a1),1
2050 MOVER-16,16,3:PRINT"A3";:MOVER-16,-16:MOVER-(
s1*s/2*SIN((270-a1)-a3)+40),(s*s1/2*COS((270-a1)-a
3)+16),2:PRINT"S1";:MOVER (s1*s/2*SIN((270-a1)-a3)
+8),-(s*s1/2*COS((270-a1)-a3)+16):TAGOFF
2060 DRAWR-s1*s*SIN((270-a1)-a3),s*s1*COS((270-a1)
-a3),1
2070 RETURN
2080 '££££££££££££££££££££££££££££££££££
2090 '£ Calc.- Screen dump correction £
2100 '££££££££££££££££££££££££££££££££££
2110 adj=s2*COS(a1)
2120 opp=(s2*COS(90-a1))*1.2
2130 a1=ATN(opp/adj)
2140 adj1=s3-adj
2150 a2=ATN(opp/adj1)
2160 a3=180-(a1+a2)
2170 s1=SQR((opp*opp)+(adj1*adj1))
2180 s2=SQR((opp*opp)+(adj*adj))
2190 CLS#2:GOSUB 1910
2200 CLS#1:CLS#4
2210 PRINT#4,"Press TAB to Clear Instructions"
2220 PRINT#3,"CONTROL & COPY for DUMP,SHIFT to STO
P"
2230 IF INKEY(68)=0 THEN 2240 ELSE 2230
2240 CLS#3:CLS#4
2250 IF INKEY(9)=128 THEN 2260 ELSE 2250
2260 CLEAR INPUT:RETURN
2270 FOR i=1 TO 100:NEXT i
2280 REM SOUND 129,78,8,7,1,1
2290 PRINT#1,"1-HELP"
2300 PRINT#1,"2-INPUT DATA"
2310 PRINT#1,"3-FINISH"
2320 PRINT#1,"4-HARDCOPY"
2330 PRINT#4,b$
2340 PEN#3,2:PRINT#3,"Enter Choice":PEN 1
2350 k$=UPPER$(INKEY$):IF k$="" THEN 2350
2360 check$=r$
2370 IF INSTR(check$,k$)=0 THEN 2350
2380 IF m=0 AND INSTR(check$,k$)=5 THEN 2270
2390 ON INSTR(check$,k$) GOSUB 1560,180,2570,2090,
700
2400 c$="":GOTO 2270
2410 '## SORT sides 1,2,3 with angle ##
2420 j=1:s(j)=s1:s(j+1)=s2:s(j+2)=s3
2430 a(j)=a1:a(j+1)=a2:a(j+2)=a3
2440 FOR j=1 TO 3
2450 k=j+1
2460 FOR i=k TO 3
2470 q=k+3-i
2480 IF s(q)>=s(j) THEN 2520
2490 p=s(q):n=a(q)
2500 s(q)=s(j):a(q)=a(j)
2510 s(j)=p:a(j)=n
2520 NEXT i
2530 NEXT j
2540 j=1:s1=s(j):s2=s(j+1):s3=s(j+2)
2550 a1=a(j):a2=a(j+1):a3=a(j+2)
2560 RETURN
2570 CLS:PRINT"PROGRAM 'TRIG' TERMINATED":STOP
```

LISTING

SCREEN DUMP

BY CLIFF LAWSON

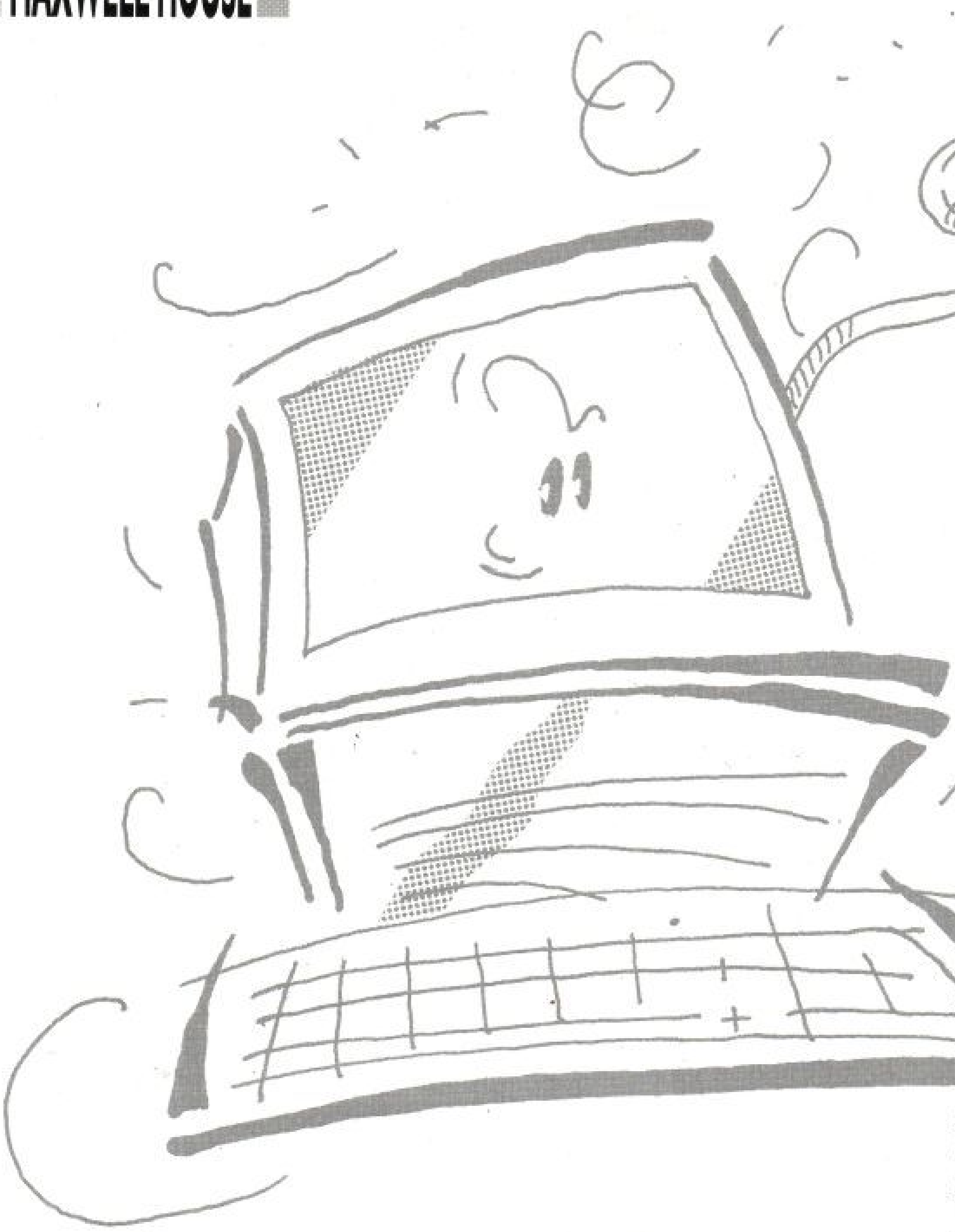
Linking with the Trig program, is the excellent oldie from Cliff Lawson of the Amsoft days. Load it first, then follow the instructions to create excellent screen dumps of your workings.

Due to a printing error this month, many of the # symbols have appeared as £ symbols. Although the essential changes have been made, you may wish to convert the £ symbols surrounding the headings for ease of use. Have fun and happy typing.



```
10 ' TEXT SCREEN DUMP by Cliff Lawson
20 ' copyright (c) AMSOFT 1985
30 '
40 ZONE 3:MODE 1:LOCATE 12,10:PRINT "Please wait .
";
50 MEMORY HIMEM-353
60 addr=HIMEM+1
70 lin=180:REM first DATA line
80 ON ERROR GOTO 160
90 ps=1:sum=0
100 READ a$
110 n=VAL("&"+MID$(a$,ps,2))
120 ps=ps+3
130 IF ps<26 THEN POKE addr,n:addr=addr+1:sum=(sum
+n) MOD 256 ELSE IF sum<>n THEN PRINT:PRINT:PRINT"
DATA error in line",lin:PRINT CHR$(7):MEMORY HIMEM
+353:END
140 IF ps<27 THEN GOTO 110
150 lin=lin+10:PRINT ".";:GOTO 90
160 IF ERR=4 AND ERL=100 THEN MODE 1:LOCATE 22,10:
PRINT "Push [CTRL] and [COPY] to start dump":LOCAT
E 25,12:PRINT "Hold down [SHIFT] to stop dump":CAL
L HIMEM+1:NEW ELSE PRINT "Error : ",ERR,"in",ERL
170 END
180 DATA 21 E1 E9 22 30 00 F7 Eb 1F
190 DATA 21 49 01 19 4E 23 46 79 B4
200 DATA B0 28 15 E5 60 69 19 E5 99
210 DATA 4E 23 46 60 69 19 44 4D 2A
220 DATA E1 71 23 70 E1 23 18 E4 E5
230 DATA 21 49 00 06 81 0E 00 11 10
240 DATA 2F 00 CD D7 BC C9 C5 D5 F2
250 DATA E5 F5 3E 09 CD 1E BB 28 EF
260 DATA 0A 3E 17 CD 1E BB 28 03 30
270 DATA CD 59 00 F1 E1 D1 C1 C9 53
280 DATA 00 00 00 00 00 00 00 00 00
290 DATA 00 00 00 00 00 00 00 00 00
300 DATA DD 21 52 00 DD 36 01 00 64
310 DATA DD 36 02 00 DD 36 03 90 BB
320 DATA DD 36 04 01 DD 36 05 00 30
330 DATA DD 36 00 00 3E 1B CD CC 05
340 DATA BB D5 E5 CD 2B BD 3E 41 A9
350 DATA CD 2B BD 3E 06 CD 2B BD AE
360 DATA CD 2E BD 38 FB 3E 1B CD 11
370 DATA 2B BD 3E 4B CD 2B BD 3E 64
380 DATA 40 CD 2B BD 3E 01 CD 2B 2C
390 DATA BD DD 36 00 00 DD 36 06 E9
400 DATA 00 DD CB 00 26 DD 5E 01 0A
410 DATA DD 56 02 DD 6E 03 DD 66 C6
420 DATA 04 CD F0 BB B7 28 04 DD 3C
430 DATA CB 00 C6 DD 34 06 DD 7E 03
440 DATA 06 FE 07 28 12 DD 6E 03 93
450 DATA DD 66 04 2B 2B DD 75 03 F2
460 DATA DD 74 04 18 CC 18 A9 CD C7
470 DATA 2E BD 38 FB DD 7E 00 CD 46
480 DATA 2B BD DD 34 01 DD 34 01 0C
490 DATA 20 03 DD 34 02 DD 7E 01 92
500 DATA D6 82 20 07 DD 7E 02 FE DA
510 DATA 02 28 12 DD 6E 03 DD 66 CD
520 DATA 04 11 0C 00 19 DD 75 03 8F
530 DATA DD 74 04 18 8C DD 34 05 0F
540 DATA 3E 0A CD 2B BD 3E 0D CD 15
550 DATA 2B BD 3E 15 CD 1E BB 20 01
560 DATA 0F DD 36 01 00 DD 36 02 38
570 DATA 00 DD 7E 05 FE 22 20 A5 45
580 DATA 3E 1B CD 2B BD 3E 40 CD 59
590 DATA 2B BD E1 D1 CD C9 BB C9 B4
600 DATA 22 00 29 00 42 00 5B 00 E8
610 DATA 00 00 00 00 00 00 00 00 00
```

ADVERTISERS INDEX



Co-operative Communications

The CPC/PCW area on Maxwell House BBS was set up as a forum for ardent CPC enthusiasts, concentrating, really, on CP/M topics (hence the inclusion of the PCW).

It's turned into a well-used melting point of chat and information exchange, where all kinds of comms related topics are discussed. Just to show you what you're missing if you're not yet online, we've extracted a ping-pong conversation on a technical level about file transfers. Check out the dates - and see how quickly the initial query turns into a wonderful exhchange of information. Only a modem can do this!!

Msg # 15 of 29 Date: Wed 29/05/91, 6:13 From: GEORGE HO-YOW To: GARY CREAN Subject: Re: Cirkit I/F

Hello Gary , probably better to get hold of MEX.com from a PD Library The xmodem protocol uses CRC polynomials for xsum, if you know how you may use the SIO i/face to do this for you. Else I suppose you could write the equivalent in code but at the expense of speed. I looked at the Cirkit spec and it states that it should be the same as the Amstrad official RS232 i/f. Or if you like I can send you a copy of ansi.ark the fabulous new comms albeit with minor shortcomings. Regards George

Msg # 16 of 29 Date: Wed 29/05/91, 6:24 From: GEORGE HO-YOW To: GARY CREAN Subject: Re: Cirkit I/F

Hello again Gary, Oops! I made a mistake. There are 2 xmodem protocols Msg 16 is about xmodem/crc. There's also the simple xmodem which you can write relatively easier. All you have to do is send an NAK char initially to start xfer to you. then the bbs sends SOH, block count and compliment, 128 byte block, cksum. You send an ACK or a NAK if the xsum is wrong. So for simplicity if you assume that the xfer is always good, all you need to do is to send a NAK and at the end of each block send an ACK and with that you should download the ansi.ark prog. An ACK is 06 and a NAK is 15hex. You will have to strip off the unwanted bits such as header and xsum. Good Luck! If you need help I would be glad to help. George

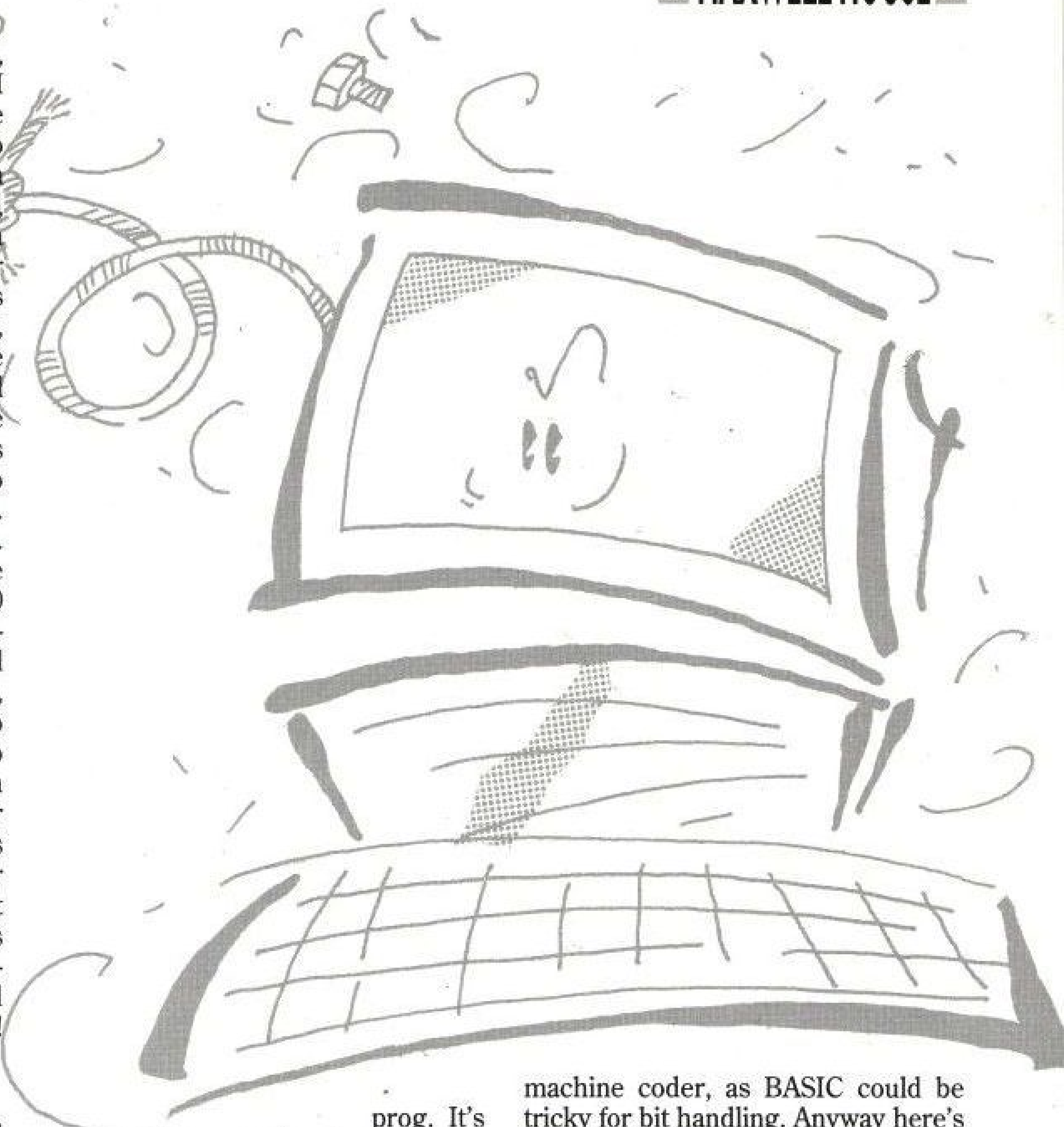
Msg # 20 of 29 Date: Thu 30/05/91, 6:56 From: GEORGE HO-YOW o: GARY CREAN Subject: Re: Cirkit I/F

Hello Gary, I suspect that Maxwell Ho. only supports XMODEM/CRC: Hope the following will help.

The block nos. are two bytes the first follows the SOH=01hex, and increases by 1 to FFh then wraps round to 0, the second is the one's complement of the first. C= 43h, NAK= 15h, SOH= 01h, ACK= 06h, EOT= 04h. The chksum is

You (Rx)	Maxwell House	(Transmitter)	
C ->	<- SOH, 01hex, FEhex, 128-	byte data,2	byte-chksum
ACK ->	<- SOH, 02h, FDh , data	corrupted.	
NAK ->	<- SOH, 02h, FDh, 128-	byte data,	chksum.
ACK ->	<- SOH, 03h, FCh, 128-	byte data,	chksum.
ACK ->	<- EOT	(this is end-of-	text)
ACK ->	<- BBS returns to	terminal mode.	

rather too complex to describe here, but I will do so separately if you wish. I will be uploading a file TEST1 in the CPC_PCW area for you to download to your screen. After entering Files from the CPC_PCW area. Enter the filename, then type the letter C. You should then see the first frame being xfered on your screen. At the end of the 128 data plus xsum, type CTRL/F which is an ACK, (or NAK for a retransmission). At the end of each xsum, transmission will pause waiting for you to respond, type ACK each time , until the BBS returns to terminal mode. This practical demo should assist you in writing a comms. proggy. Hope you find this helpful. Cheers! George. I think you could write a simple basic prog to download at 300 baud, and ignore checksum calculation assuming a good BT line. So all you have to do is send C (upper case) , then count the no. of times there is no char received so every 3 secs if no response from Max Ho. send a C. When Max starts to send, buffer each char and wait for 3 sec timeout. If 131 chars rxed, send A CK else reset your buffer pointer and send NAK. Oh! on timeout check that if first char of new block is EOT then send ACK and reenter terminal mode. For info, the xsum is applied to the 128 data bytes only. Cheers! George.



Msg # 21 of 29 Date: Thu 30/05/91, 7:03 From: GEORGE HO-YOW To: GARY CREANSubject: Re: Cirkit I/F

Hiya again Gary, Arggh! Can't do sums! The byte count is 133 NOT 131 as previously stated. SOH is 1, then the block nos. make 3, the n the 128 data bytes make 131 then the 2 xsum makes 133. Ok! Byee George.

Msg # 23 of 29 Date: Mon 3/06/91, 11:57 From: GARY CREAN To: GEORGE HO-YOW Subject: Re: Cirkit I/F

Please could you explain the xsum because my BT lines aren't really good and I'm also thinking of writing an upload proggy because ANSI only works on CPM

Thanks <<Gary>>

Msg # 24 of 29 Date: Mon 3/06/91, 17:20 From: GEORGE HO-YOW To: GARY CREAN Subject: xsum for xmodem

Ermm, I was hoping you wouldn't ask that. I know the theory but haven't had a chance to put it in practice. Anyway ansi.ark is a normal amstrad runnable prog. It's the unarc.com that runs under lcpm to separate the files out. Oops let me put that another way. Ansi. ark is a collection of runnable files. I'll compose the xsum algorithm offline and upload it. bye!!

Msg # 25 of 29 Date: Mon 3/06/91, 18:57 From: GEORGE HO-YOW To: GEORGE HO-YOW Subject: crc16 xsum algorithm

Hello Gary, first a quick chat about CRC xsum in general. The xsum processing is applied to all the bits of the 128-byte data plus the 2-byte xsum, which when processed ends up with all zeroes. So to start with the 1st byte; let this be 13hex for eg., then to begin, the lst bit which is a logical 1 is processed, then the next bit to the left of it, which is another 1, then each of the two zeroe s, then a 1, and then the three zeroes. The next char is then taken in, and each bit processed in turn. The problem is that unless you have a fast cpu, you might miss incoming chars while calculating the xsum for each char, as the BBS sends the 133 bytes as a "str eam", so the alternative would be to buffer the entire 130 byte block and do the xsum on the block. Hope you're a machine coder, as BASIC could be tricky for bit handling. Anyway here's the algorithm, let me know how you get on if you don't mind, Gary. 1. Clear the 16-bit xsum register (or a 2-byte memory location,) with the bits starting from the left being defined as: x15, x14, x1 3, x12, ..., x0. Similarly define each bit of the byte to be xsummed, from the left as: b7, b6, b5, ..., b0. So we have to process b0 first, then b1 and so on up to b7. 2. let n%=0 3. fb% = x15 EXOR b(n%) 4. SHIFT LEFT xsum.register 1 place ; and make x0 = 0. 5. IF fb%= 1 THEN x12= x12 EXOR 1; x5= x5 EXOR 1; x0= x0 EXOR 1 6. n%=n%+1 : IF n% < 8 THEN 3 ELSE get next byte and loop to 2. At this point all bits of the byte have been processed and the next byte is fed into 2. After the 130th byte has been fed thro' x15 to x0 should be 0. Else the data has been corrupted on receive. I've only recently learnt how to drive the SIO from m/ code. I had a look at the SIO data book, and it has CRC processing for SDLC, which uses the same CRC16, but the examples are for interrupt handling and not the polling method with which I am more at home with. Perhaps when I have more time to experiment I'll have a go at CRC processing using the SIO registers. See you anon! George

The French Revolution

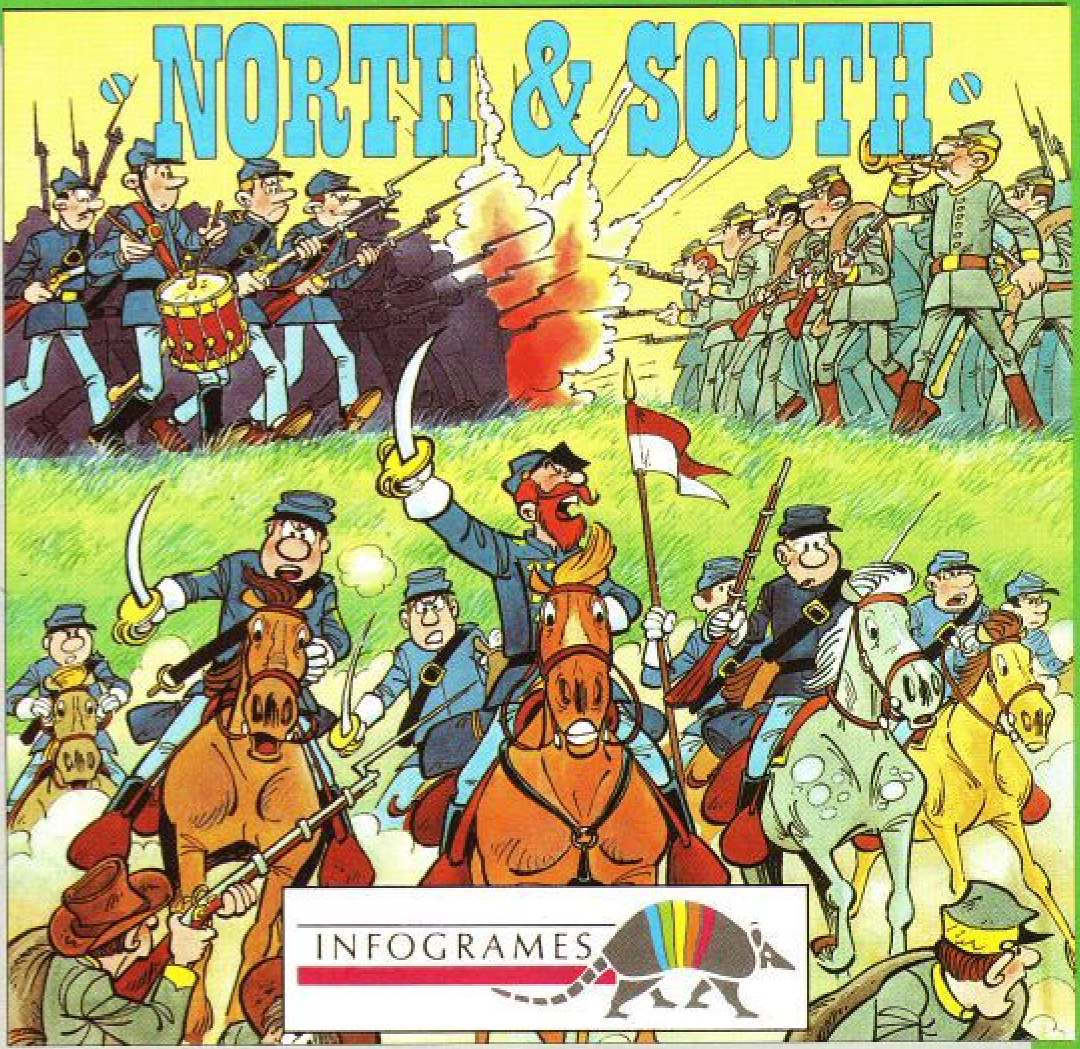
Gallic Gameplay comes under the scrutiny of our intrepid two-wheeled investigator Vic Barnes, as he visits the UK base of Infogrames

I need shoot-'em-ups as badly as Marcel Marceau needs a microphone. I can't abide them – they do not appeal to even the shallowest side of my polyhedral character. I'd rather condemn myself to drinking caffeine-free coffee than be forced to play one. And I drink a lot of coffee!

I also play a lot of games, probably more than I should admit. When work is finished, after countless hours of thrashing a hot keyboard, I reach for the *Konix* and something on the games rack to stimulate, intrigue, or puzzle me. I don't have enough time to get into adventure games so it must be a program I can abandon at the drop of a joystick.

I like soccer games – although there have only been a couple of good ones; race simulators interest me, but usually lack realism; role playing games are enjoyable, but often in a format I don't like, whilst decent strategy games are probably my favourites but – like a 'good man' – hard to find!

During six short years of a CPC love affair, my gamesmanship has been enlightened with milestones such as *Passengers On The Wind, The Bard's Tale, Laser Squad, Bobsleigh, Emlyn Hughes' International Soccer, Arkenoid, Stunt Car Racer* and *North and South.* A great deal of money has also been swallowed-up because of the voracious appetite of software mediocrity. No names – no free offers!



The thing is, it is not getting any easier to find the kind of originality some of us crave for. The majority of games these days are arcade conversions, or a kind of dilute, licensed attempt to cash-in on cult heros, television, or films. Unfortunately, we are given the type of programs the *majority* of us want to buy. Software houses are loath to depart from a tried and trusted formula and it's getting a bit like the Top 20 – LCD rules okay? I just hope no-one brings out a Kylie Minogue, or Jason Donovan, computer game that's all!

Luckily, a small army is defying the heat in this very arid desert. Like the French Foreign Legion they are fighting a lone battle – and because of their difference they stick out like a cactus. For our sakes as well as theirs, I hope *Infogrames* win the good fight.

Of the many games produced each year originality, creativity and style are rare hallmarks. You *know* an *Infogrames'* game is going to be different and you either love it, or hate it. Personally, opening a box with that little armadillo on it is always exciting. I am never quite sure what I'm going to get; I know the graphics will be good and the 'storyline' unusual (often amusing), but will the game actually grab hold of me and blow my socks off? Usually, it does both.

After two years of distributing games through a British company, *Infogrames* set-up *le shop* in London (October 1990) in an attempt to control their own UK destiny. Based at downtown Clapham, the company is a mere flick of the joystick from my own home-base. So... I flicked a wrist and in the best traditions of 'teleport-magic', found myself in the company of Marketing Manager, Dominique Cor, determined to teach me as much as he could about the new French revolution.

Along with Dominique, (who is responsible for press relations) the UK 'arm' consists of four people! The Managing Director is Henri Coron – also in charge of sales. Stephane Baudet, a programmer who looks after conversions and is currently recruiting English developers for future projects, and Lucinda Bingham – Personal Assistant/Secretary, who holds everything together.

The first small step was in 1983 when two salesmen working for Thompson, the French computer company, wrote a game for the firm's machine, the T07. They won a substantial cash prize from a government who were committed supporters of new technology (unlike certain *other* governments) and *Infogra-*

mes was born. From the outset, this brash young team went solidly into the Euro market place, aiming to produce high-quality games and programs, and offer something different and original (and often humorous). Today, they are still there, employing a staff of 75 and earning their baguette and butter with customised programs for *Minitel*, which is the French equivalent of BT's *Prestel*. They were also responsible for the first computer game advertised on (French) television.

Infogrames' first foray into the crowded British market was the marvellously innovative, *Passengers On The Wind* and the tongue-in-cheek(?) *Captain Blood*. It was a brave venture because the home market is the biggest and most competitive in Europe. Luckily, CPC users were among the first to benefit because of the machine's large user-base, both here and on the Continent. And according to Dominique, there are also about four million *Spectrums* in existence, though many of them are 'dead!'

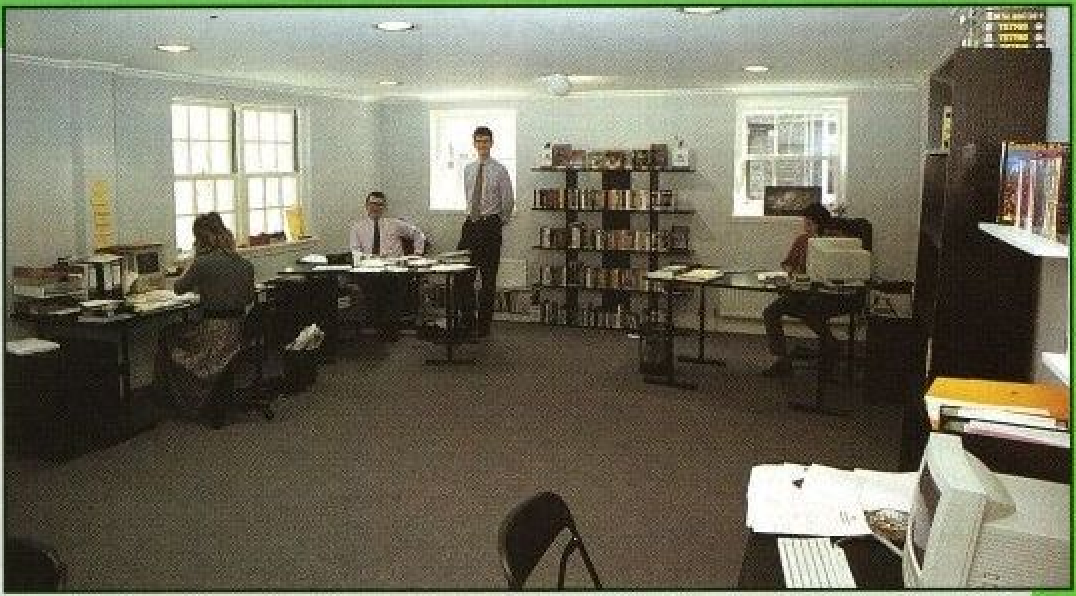
'It is not easy for us in England,' Dominique explained in his best Sacha Distel accent. 'We have big competition from the UK companies. This is good, but it is also very hard!'

Trying not to become passengers blown on the wind, *Infogrames* continue to create original programs that appeal to a surprisingly large, but silent minority. This is pretty difficult when at least half the buying public consists of 'shoot-'em-up' addicts.

'We can't produce 'shoot-'em-ups',' grinned Dominique, 'we don't know how!'



The 'I' Team – Front: Lucinda bingham. Back (l-r): Dominique Cor, Stephane Baudet, Henri Coron.



Daring to be different in Sunny Clapham.

Although spoken in good faith, that statement is not strictly true. I've spent the last few evenings playing *Mystical* and although it *is* different, it's probably as near to a 'shoot-'em-up' as *Infogrames* will ever get. I suppose it could be described as an arcade adventure (with a touch of the absurd) and with le tongue firmly in le cheek! It has superb graphics and is great fun 'firing' magic spells at the baddies and watching them turn into snowmen, toads, or a pile of bones and skulls! To restore energy you have to eat 'Big Macs!' Yuk!

Right now the PC market is getting bigger and bigger and Dominique also predicts that consuls are going to get 'hot'.

'We are *Nintendo* and *Lynx* licensees and also produce *Game Boy* games,' Dominique added.

That's great news if you own one of these mini-marvels, but where does that leave CPC users?

'8-bit obviously has a lower priority than 16-bit, but it is still very important in the UK from a sales point-of-view,' Dominique said. 'If a game is successful on 16-bit we still think it's worth doing an 8-bit version. At the moment this represents 40% of our output.'

Infogrames have one big problem. Describing their games is not easy, they are better *experienced*. The differences often include sheer *style; scale* of graphics; gentle humour; original and creative storylines and a certain Gallic *elan*, or *panache*.

Dominique also recognises this problem. 'I sent a description of *Tetris* to the press and had a very poor response, but when I eventually sent the finished product we received excellent reviews. I suppose this explains that we have to find a way of showing and demonstrating our product to the consumer.'

The company has a small advertising budget and added to the traditional distribution system, which is not terribly efficient, this means finding new and effective methods of promotion and marketing – and education.

Perhaps *Infogrames* will eventually advertise on British television. In the meantime, they employ their French system of direct marketing via an extensive user-database. Other important techniques are 'in-store' promotions, exhibition demonstrations and press reviews. (And this article?) The company philosophy is that advertising is *not* promotion, merely a reminder.

This year *Infogrames* have released *Tetris, Mystical, Light Corridor* and *North and South*. The latter is a real blockbuster of a strategy game and based on a French comic, *Les Tuniques Bleues*, about the American civil war. The game is chock-full of action, tactics, and humour. Naturally, it's Rebels versus Yankees and your chosen army must capture as much territory as possible. Along the way there are forts to attack (watch out for the hound dog); trains to board and plunder, and battles to fight (but don't disturb the siesta-ing Senor). Wonderful fun – and at the higher levels – quite a brain teaser!

On the horizon is a new game (working title, 'Colours') being developed in tandem with a team of Russian programmers – the same people who brought you *Tetris*. An over-simplification would be to describe the game as one of strategy, dexterity, reaction, vision and planning.I've seen a working version, but I'm almost at a loss to explain it! Basically, you must change a multi-coloured screen into patterns of one colour, or... turn the whole screen a single colour... but there are problems to solve and hazards to negotiate... you also have to... er... play the game!

And as far as the mass-market, shoot-'em-up addicts are concerned: tell them to eat cake!

BITS 'N' PIECES

For Sale

GRAPHIC ADVENTURE: Talisman of Lost Souls. Features over 70 locations. For all CPC/Plus machines. Just £3.50 for cassette. £5 for disc. Send cheque/P.O. to: T.Kingsmill, 202 Park Street Lane, Park Street, St.Albans, Herts. AL2 2AQ.

AMSTRAD CPC6128 colour monitor, AMX mouse, Maxam, tape recorder, joystick, built-in disc drive. £575 worth of games, magazines and books. Very good condition. Worth over £1150. Will sell for £425. Telephone 061 449 0279.

NEW! DESKTOP PUBLISHER for newsletters, posters, correspondence. Load graphics, fonts. Justify text. Draw lines, borders. 6128 only. £5 inclusive. SAE for details, examples. Geoff Short, 4 Wykeham Avenue, Guisborough, Cleveland.

FOR SALE: MT81 printer £125. Multiface 2: £30. Colour monitor: £100. 64K expansion: £35. AMX Mouse: £35. Joystick: £10. AA Mags: £25. DDI-1: £80. Tape software: £120. Phone Glen on 0493 780171.

AMSTRAD CPC464 colour monitor, loads of games plus utilities. 2 joysticks and lightpen. All boxed with manuals and worth loads. Yours for just £310 ono. Tel: Alex on 0669 20188.

CPC6128 colour monitor, DMP2000 printer. Plus over £1000 worth of disc software and magazines. £500 ono. Phone 048838 395.

CPC6128, colour monitor, TV tuner, clock radio, joystick, 50 games including Out Run, 720, California Games, Gauntlet 2, Bombjack and more. As new, boxed. Worth £700. Will sell for £500. Tel: 0252 879758 after 2pm.

AMSTRAD CPC464 green monitor with joystick and games and database software worth £50. Will sell all for £130. Computer in very good condition. Please phone 081 689 4755 after 5pm.

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CPC464 colour monitor, 3 + 3.5" disc drives, RS232 interface, DMP2000 printer, Rombox with Protext, Speech synthesiser, Lightpen, Amdrum, Multiface 2 with Insider, joysticks, books, games. Cost £1300. Will accept £500. Telephone 0603 501563.

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THE ULTIMATE CPC6128 setup worth over £1700, no kidding, too much to list here. I may split it. Phone 0924 251608 for details.

CPC6128 colour monitor, business, educational, games software, mouse, TV modulator, joystick, original manuals plus three years back copies of ACU. £380 ono. Tel 0772 713362.

FOR SALE or swap. Amstrad 464 plus, 30 games including Robocop, Shadow Warriors with BW monitor, built-in tape and disc drive. Swap for Amiga or sell for £300. Phone 0294 61276 and ask for Martin.

Wants/Swaps

WANTED: copy of CP/M disc sides 1 and 2 for CPC664. Will pay. Tel: 0752 793241.

WANTED Golden Axe. Will swap for Scalectrix. Tel: Australia 024846443 and ask for Andrew.

HELP NEEDED for Fighter Bomber: How to complete the first mission. I also want Chuck Yeager's Flight Simulator. Phone Ditch Townsend on 081 942 7425, or write to 16 Roebuck Court, Rodney Road. New Malden, Surrey.

WANTED colour monitor or MP-2 modulator for Amstrad 6128. Phone 0480 62620. WILL SWAP Gemini Wing for other budget games. Phone Christopher on 0371 850557 5pm to 8pm, Monday to Friday.

WANTED ACU type-ins, disc only. Will return your disc full of PD software. No SAE, no reply. E.Spicer, 3 Golden Avenue Close, East Preston, Littlehampton, West Sussex. BN16 19S.

WANTED Mini office 2. Will pay cash. Must be on disc. Leave phone no. where you can be contacted. I will get back to you. Also tape copy programs wanted. Phone 081 507 8056.

WANTED 64k memory expansion. Also Stop Press program T.R. Ball, 5 Howarth Avenue, Church, Nr. Accrington, Lancs. 0254 392220.

WANTED Soft 968 and Mannesmann Tally MT81 applications manual. Good condition. Write with asking price and condition to: Ian Napier, 20 Grove Avenue, New Costessey, Norwich. NR5 0HN. SAE for guaranteed reply please.

WANTED CTM 664 colour monitor. Will exchange for GT65 green screen plus tapes. Please contact Carl at 16 Hillside Road, Penyffordd, Chester, Clwyd. CH4 0JJ, or phone Carl on 0244 544498.

SWAP GAMES Adrian Mole, Cluedo, Chiller, Finders-Keepers and P47 for MP1 TV modulator for CPC 464 or utilities, tapes. My games are on tape. Phone 081 533 3793.

WHIZZ PD: Software is needed for new PD library, Games, utilities etc...all needed. If used, you'll get vouchers and loasdsa PD stuff. Write to Whizz PD, 20 Cross Street, Nuneaton, Warks. CV10 8HY.

Services

FREE PUBLICITY for homebrew programs. Send your program and documentation for review in CPC Domain fanzine to: CPC Domain, 119 Laurel Drive, East Kilbride, Glasgow. G75 9JG. Full page adverts only £5.

BRAWL-BALL new! Brawl-Ball is a new home run play by mail game. Free turn. First ten get placed. Send SAE to Hughes-Games, Hadyn Hughes, 15 Chase View, Ettingshall Park, Wolverhampton. WV4 6QN.

SKULL PD LIBRARY has moved to 119 Laurel Drive, East Kilbride, Glasgow. G75 9JG. Send disk and SAE + £1 for samples or send SAE for free newsletter.

WOW SOFTWARE is a company selling new and re-released adventure games for the CPC. Send SAE for the latest list to WOW Software, 78 Radipole Lane, Weymouth, Dorset. DT4 9RS.

AMSTRAD COMPUTER PARTS available for the entire range. Plus many computer accessories available. Just call me or write to J.Hayward, 53 Eny Road, Cardiff. CF5 2JF. Telephone 0222 554369.

HELP OFFERED on all aspects of BASIC and assembly language programming. Don't forget to send an SAE. Sean McManus, 286 Chertsey Rise, Stevenage, Herts. SG2 3JG.

CONVERT your 464 to 6128. Keep 464 equipment and buy 6128 programs. Both will work. Microchip conversion carried out. All you need is disc drive. Example Stop Press DTP on 464. Contact R.J. Amison, 56 Drubbery Lane, Burton, Stoke-on-Trent. 0782 318548.

I HAVE STARTED A BUSINESS for people who want tailor-made programs for all CPCs. Also, does anybody have a Firmware Guide for the 464 to lend. Contact Mr Manning, 9 Steerforth Street, London, SW18 4HH.

Fanzines

CPC DOMAIN fanzine. Issues 1, 2 and 3 out now. Each has 40 packed pages and costs £1.25. Send SAE for details: CPC Domain, 119 Laurel Drive, East Kilbride, Glasgow G75 9JG.

CPC FANZINE Play Mates. Issue 8 out 1st June, full of reviews, tips and Bonzo news. Now £1.30, which includes P+P. Carl Surry, 37 Fairfield Way, Barnet, Herts. EN5 2BQ.

AOK Fanzine, issues 2 and 3 out now. Includes features, reviews, type-ins, small projects and more. Send 60p (includes P+P) to Paul Escott, 31 Colebrook Road, Shirley, Solihull, West Midlands. B90 2LB.

ATTENTION budding writers. CPC Domain fanzine needs your articles for its pages. Free copy of the mag if your article is used. Send to: 119 Laurel Drive, East Kilbride, Glasgow. G75 9JG.

Penpals

CPC PENPALS wanted to swap games or demos on disc or tape. Send your lists to Carl Wilson, 64 Fishponds Road, Kenilworth, Warks. CV8 1EZ. Greetings to NWC and CBS.

PENPALS WANTED to swap games and demos on disc. Any age, any country. Help also given on new and old games. Write to Richard Wildey, 41 Enmore Gardens, London SW14 8AF.

WANTED PENFRIENDS to swap games, cheats, pokes. I have a 464 with extra 64k and Genius Mouse. Alwyn Williams, Swn-Y-Gwynt, Bodffordd, Anglesey, Gwynedd. LL77 7DZ.

With ACU's spectacular PIECES section looking like making an appearance next month, the B'n' P section should be expanding very rapidly, so if you want to join in, make sure you fill in the coupon below straight away to book your own space in this special section just for you.

The more coupons we receive, the more chances you get to pick up a bargain, so keep 'em coming in thick and fast.

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Please send coupon to ACU, 116-120 Goswell Road, London EC1V 7QD. Please place this ad in the next available space in Bits 'n' Pieces.

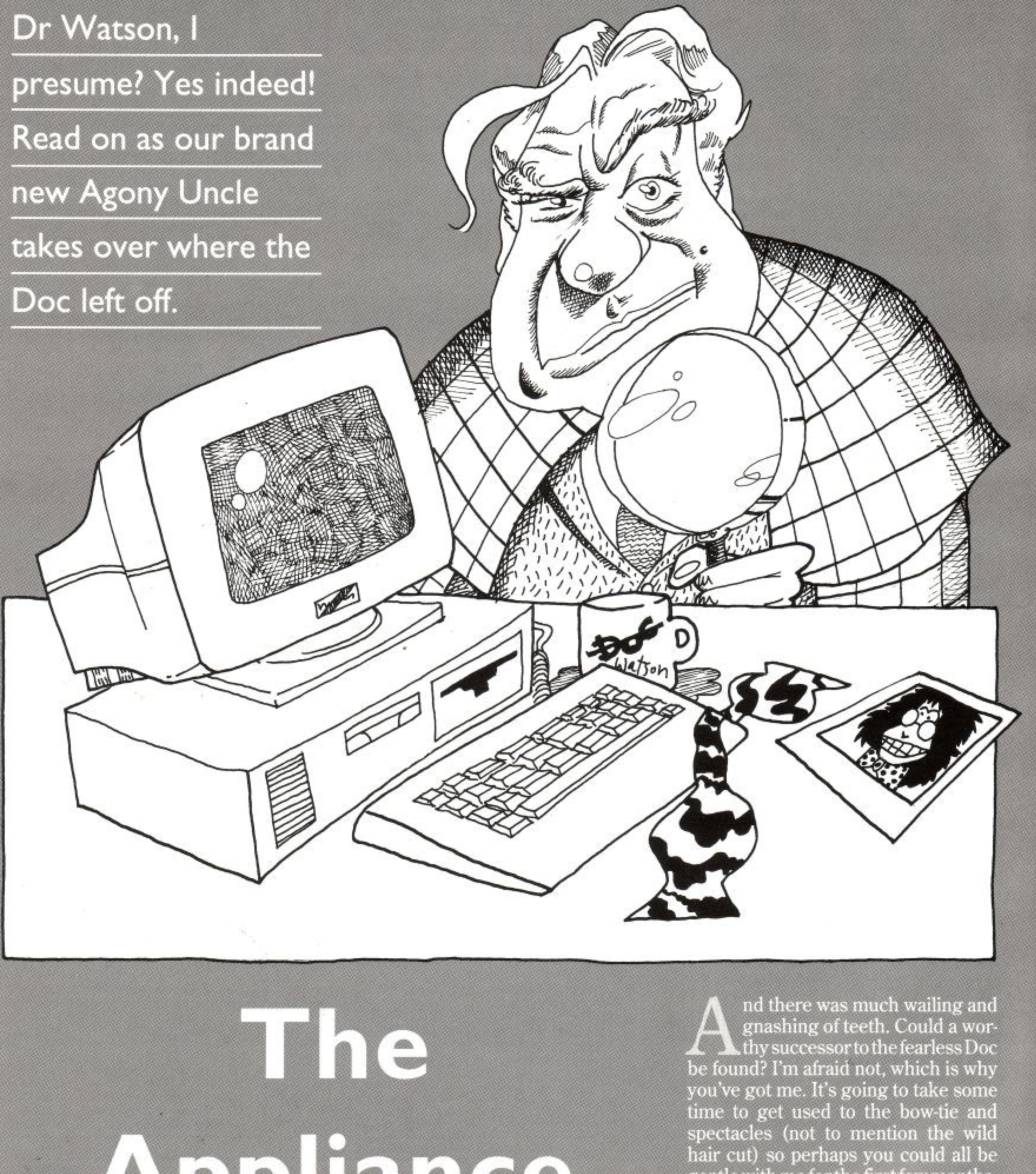
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The cost of 1-30 words inclusive is absolutely FREE for private ads in Bits.
For the Pieces section, just fill in a brief outline of your program and let ACU do the rest.

Dr Watson, I presume? Yes indeed! Read on as our brand new Agony Uncle takes over where the Doc left off.



The Appliance of Science

And there was much wailing and gnashing of teeth. Could a worthy successor to the fearless Doc be found? I'm afraid not, which is why you've got me. It's going to take some time to get used to the bow-tie and spectacles (not to mention the wild hair cut) so perhaps you could all be gentle with me for the first few months. Try thinking of it as a free upgrade which still has a few bugs to be ironed out!

Anyway, the first letter this month comes from R W Mansell of Lincoln (and you'll find no corny Robin Hood jokes in this column) who writes:

"I have seen a program in use on a CPC6128 called Pagemaker which I would like to purchase. Can you tell me if there is a 6128+ version and if so where it can be obtained. I have looked through numerous publications but can find no

mention of it. If there is no such program can you advise me of a suitable alternative. I see a number of art programs advertised but I'm not sure if they are the same thing.

My next request concerns books. I have written a number of BASIC programs which I use for servicing league tables and making competition draws and while they work very well, often tend to be pretty slow. Could you recommend a book that teaches machine code programming in words of one syllable?

Finally, when I completed my draw program I inadvertently saved it using the privacy system and then switched off. I have no copy of the program that I can get at to update it. Is there any way that the program can be recovered?"

Pagemaker, for those who don't already know, is a DTP (desktop polishing…er…publishing) package produced by AMS software. Not long after being released it was renamed 'Stop Press' to avoid a legal battle with Aldus, a large American corporation who produce a £400 package of the same name for PCs and MACs. 'Stop Press' is still available (for around £40) and is excellent at mixing drawings from art packages with text from wordprocessors, allowing you to produce some very professional-looking documents. To see what DTP (albeit with much more sophisticated equipment and a lot of skill) can achieve, just take a look at ACU. Although Stop Press was originally designed for the CPC6128, it will work fine on a 6128+ and will work even better if you can afford a suitable mouse to go with it.

As for learning machine code programming, many of the best publications are no longer in print. However, ACU is about to rectify this with a brand new section designed especially for people trying to make the transition from BASIC to machine code. Seeing as it's me who's writing it, you'll probably also get your wish about it being in one syllable words!

What's this? You're not still hanging around are you Mr Mansell? OK I'll answer just one more of your questions although I'm not entirely sure what you mean by the 'privacy system'. I take it that you are referring to the |USER command which divides the directory into 16 individual sections. If this is the case then use |USER,n to access the particular section in which you saved the program. AMSDOS will only give you access to the files in your current section (the default is zero). If you can't remember which section you put it in you'll just have to try all the sections between 0 and 15, doing a catalogue each time.

No Chance!

Next up is Barrie Snell from Portsmouth:

'I have a query regarding the Amstrad's pseudo-random number generator. Run the following program.

```
10 mode 2:n=0
20 x=rnd*639:y=rnd*399:n=n+2
30 plot x,y:goto 20
```

For the first five minutes there is a lot of activity which dies as some pixels are over-plotted. But at about six and a half minutes, with around 33500 pixels on the screen, the activity ceases. Wait as long as you will but no more new pixels are plotted, which obviously means that the random number generator is repeating itself after only choosing 67000 numbers.

I know that no maths-driven generator can produce a truly random sequence and that it must repeat itself sooner or later. How soon or how late is determined by a 'seed' number from which the sequence grows. There is much literature on the subject of choosing a good seed, but even a moderately good one will generate a few million random numbers before repeating, not just a mere 6700 as the Amstrad seems to give, which is totally inadequate for doing serious mathematical investigations involving problems in queuing, or the behaviour of gases, and so on, that need lots of random events."

For the most part you are correct and obviously realise that producing truly random numbers on a computer is near=impossible. After all, most events in the real world which we regard as random eg tossing a coin can be attributed to physical effects. The important point to remember here is that we have little conscious control over such events and so, to all intense purposes, tossing a coin is random.

Inside the highly ordered world of a computer, generating random numbers is a very tricky problem. In common with most other small computers the Amstrad CPCs simply follow a predetermined list of random numbers. If you reset your computer and type PRINT RND two or three times you will get numbers which at first glance look entirely random. But if you reset your computer and repeat the exercise you should get exactly the same numbers. This is because the computer is starting at the same place on the list each time.

To determine where the computer starts on the list, the RANDOMIZE command may be used. Unfortunately to start at a random place on the list you need a random number and so you end up going round in circles! The best way out is to type RANDOMIZE TIME as the TIME variable is unlikely to be the same twice.

Now to Barrie's precise problem. In his point-plotting program, x and y hold random numbers to several decimal places but in order to plot a point on the screen, BASIC treats the numbers as integers thus losing all digits after the decimal pint. Therefore 200.19212, 200.73812, 200.98266, 200.883354 all become 200. So even though points may be plotted over each other, the numbers that generated them were probably very different. Perhaps other readers have experienced similar problems when using Arnold's 'random' number generator and have devised their own solutions?

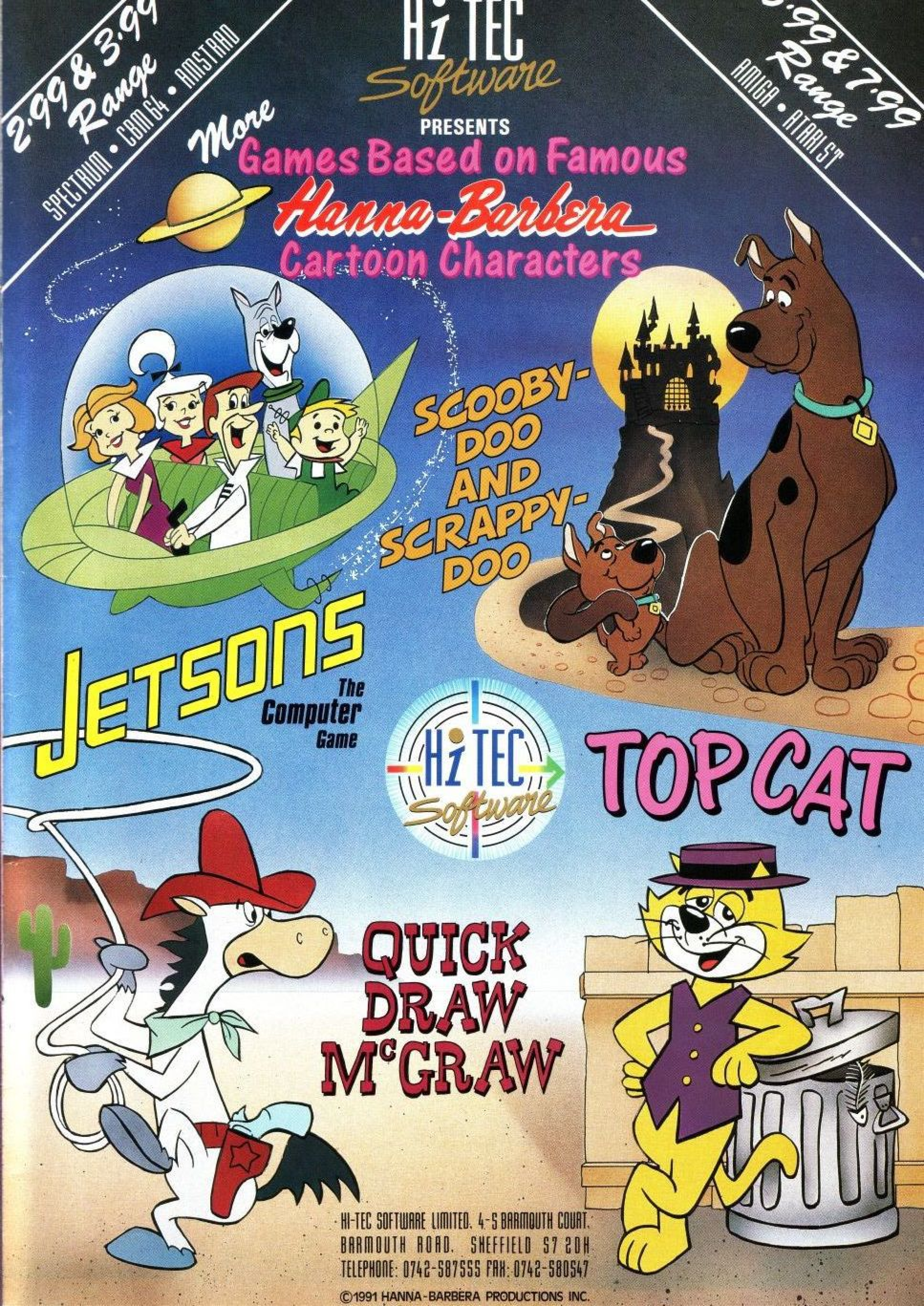
A Calculated Execution

Keith Sterrow of Middlesex has written a very detailed letter regarding automated 'execute' routines (ie macros) for Supercalc 2. He seems to be doing some pretty advanced things with it already but can't figure out how to include ESCape key presses or CTRL|D in an execute file.

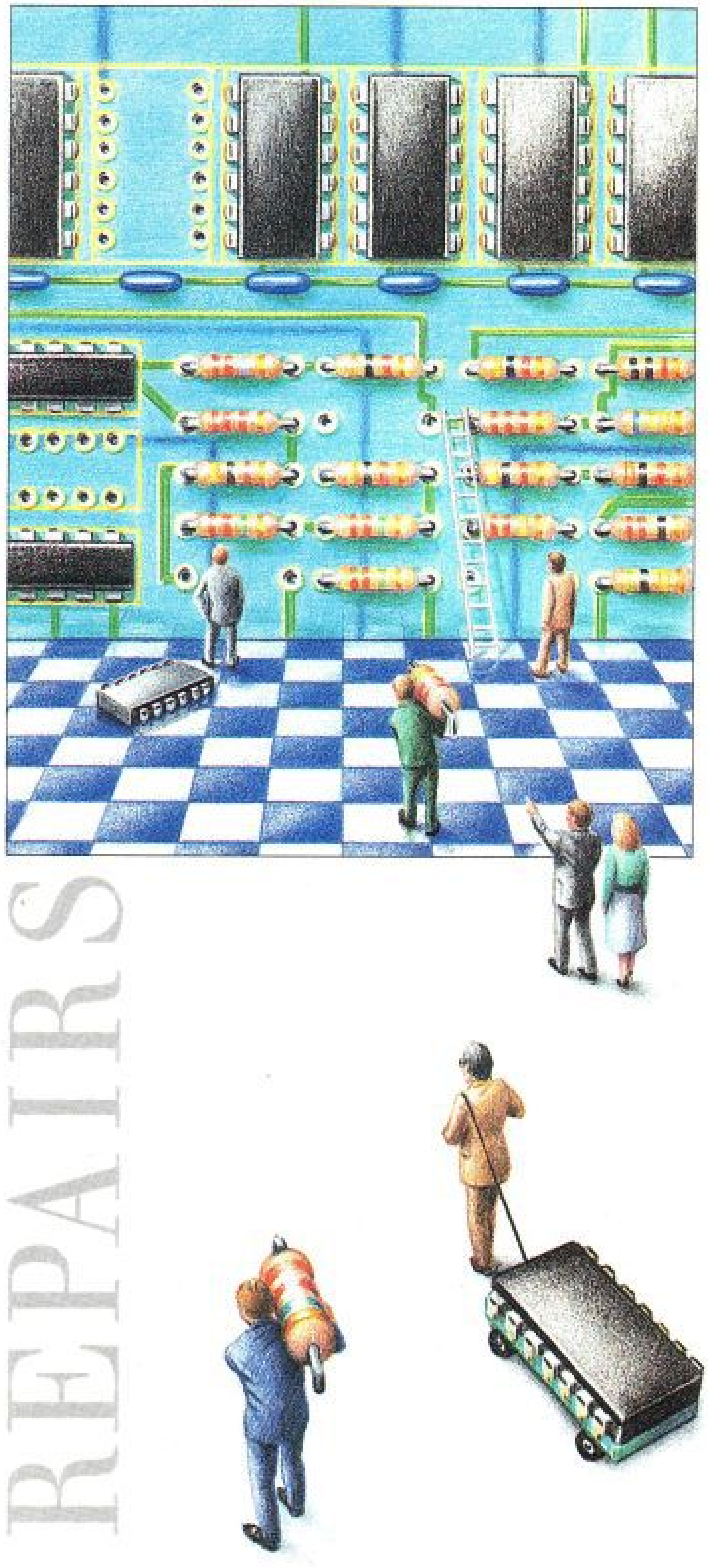
Now I can't confes confess to being very clued up about spreadsheets and have never used Supercalc 2, but it appears to me as if it's more a question of inserting control codes into a text file. The CPCs have 32 control codes which are listed on page 7-8 of the 6128 user manual. From this list you can see that ESC is code 27 and CTRL|D is code 4. Having worked out the required numbers, you now need to get them into a text file. How this is achieved will depend largely on the wordprocessor/text editor that is being used. All should have facilities for sending control codes to printers to give effects such as bold, underline etc and so redefine some of these to give the codes you require. Finally, save the text as an ASCII file (eg using PRINTF on Protext).

There's no way for me to test the above method with your specific application so if there are say SC2 freaks out there, feel free to add your two penneth worth (you can even add VAT and work it out as a percentage of the GNp if you wish).

Well doesn't time fly when your tearing your hair out trying to solve other people's problems. Doc may have moved on to pastures new but his spirit lingers on in these pages (hic) so keep sending in those letters to the usual address, and may the operating system be with you.


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